

Service
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Service Manual



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**CLASS 1
LASER PRODUCT**



3139 785 30470

Version 1.0



PHILIPS

Technical Specifications

Playback system

DVD Video
 Video CD & SVCD
 CD (CD-R and CD-RW)
 MP3 CD
 DVD+RW / DVD+R (finished)

TV standard (PAL/50Hz) (NTSC/60Hz)

Number of lines	625	525
Playback	Multi standard	(PAL/NTSC)

Video performance

Video output	1Vpp into 75ohm
S-video output	Y: 1Vpp into 75ohm C: 0.3Vpp into 75ohm
Component video output	Y: 1Vpp into 75ohm Pb/Cb Pr/Cr: 0.7Vpp into 75ohm

Audio format

Digital	MPEJ	Compressed Digital
	Dolby Digital	16, 20, 24bits
	PCM	fs, 44.1, 48, 96kHz

Analogue Stereo Sound

Dolby surround-compatible downmix from Dolby Digital multi-channel sound on 2speakers.

Audio performance

DA converter	24bits
DVD	fs 96kHz 4Hz----44kHz
DVD/SVCD	fs 48kHz 4Hz----22kHz
SVCD/VCD/CD	fs 44.1kHz 4Hz----20kHz
Signal-Noise (1kHz)	>90dB
Dynamic Range (1kHz)	>80dB
Cross talk (1kHz)	>80dB
Distortion and Noise (1kHz)	>80dB
MPEG MP3	MPEG Audio L3

Connections

Y output	Cinch (green)
Pb/Cb output	Cinch (blue)
Pr/Cr output	Cinch (red)
S-video output	Mini DIN, 4pins
Video output	Cinch yellow)
Audio L+R output	Cinch (white/red)
Digital output	1 coaxial
	IEC958 for CDDA/LPCM
	IEC1937 for MPEG1/2,

Cabinet

Dimensions (w X h X d)	228 X 56 X 296mm
Weight	Approximately 2.32

*Typical playing time for movie with 2 spoken languages and 3 subtitle languages.


Specifications subjects to change without prior notice.

Safety instructions, Warnings, Notes

Safety instructions

1. General safety

Safety regulations require that during a repair:

- . Connect the unit to the mains via an isolation transformer.
- . Replace safety components indicated by the symbol , only by components identical to the original ones. Any other component substitution (other than original type) may increase risk of fire or electrical shock hazard.

Safety regulations require that after a repair, you must return the unit in its original condition. Pay, in particular, attention to the following points:

- . Route the wires/cables correctly, and fix them with the mounted cable clamps.
- . Check the insulation of the mains lead for external damage.
- . Check the electrical DC resistance between the mains plug and the secondary side:
 - 1) Unplug the mains cord, and connect a wire between the two pins of the mains plug.
 - 2) Set the mains switch the "on" position (keep the mains cord unplug).
 - 3) Measure the resistance value between the mains plug and the front panel, controls, and chassis bottom.
 - 4) Repair or correct unit when the resistance measurement is less than 1MΩ.
 - 5) Verify this, before you return the unit to the customer/user (ref. UL-standard no. 1492).
 - 6) Switch the unit "off", and remove the wire between the two pins of the mains plug.

2. Laser safety

This unit employs a laser. Only qualified service personnel may remove the cover, or attempt to service this device (due to possible eye injury).

Laser device unit

Type	: Semiconductor laser GaAlAs
Wavelength	: 650nm (DVD)
	: 780nm (VCD/CD)
Output power	: 20mW (DVD+RW writing)
	: 0.8mW (DVD reading)
	: 0.3 mW (VCD/CD reading)

Beam divergence: 60 degree

Note: Use of controls or adjustments or performance of procedure other than those specified herein, may result in hazardous radiation exposure. Avoid direct exposure to beam.

Warnings

1. General

. All ICs and many other semiconductors are susceptible to electrostatic discharges (ESD). Careless handling during repair can reduce life drastically. Make sure that, during repair, you are at the same potential as the mass of the set by a wristband with resistance. Keep components and tools at this same potential. Available ESD protection equipment:

- 1) Complete kit ESD3 (small tablemat, wristband, connection box, extension cable and earth cable) 4822 310 10671.
- 2) Wristband tester 4822 344 13999.

. Be careful during measurements in the live voltage section. The primary side of the power supply (pos. 1005), including the heat sink, carries live mains voltage when you connect the player to the mains (even when the player is "off!"). It is possible to touch copper tracks and/or components in this unshielded primary area, when you service the player. Service personnel must take precautions to prevent touching this area or components in this area. A "lighting stroke" and a stripe-marked printing on the printed wiring board, indicate the primary side of the power supply.

. Never replace modules, or components, while the unit is "on".

2. Laser

. The use of optical instruments with this product, will increase eye hazard.

. Only qualified service personnel may remove the cover or attempt to service this device, due to possible eye injury.

. Repair handling should take place as much as possible with a disc loaded inside the player.

. Text below is placed inside the unit, on the laser cover shield:

CAUTION: VISIBLE AND INVISIBLE LASER RADIATION WHEN OPEN, AVOID EXPOSURE TO BEAM.
--

Notes: Manufactured under licence from Dolby Laboratories. The double-D symbol is trademarks of Dolby Laboratories, Inc. All rights reserved.

Mechanical and Dismantling Instructions

Dismantling Instruction

In this paragraph some tips are given to dismantle the DVD590M player. For item number, refer to the exploded view.

Step1: Remove 4 screws at the Rear Cover. (Figure 1)

Step2: Push the Top Cover toward the Rear. (Figure 2)

Step3: Remove 5 screws at the Inner Metal Plate and then open it. (Figure 3)



Figure 1

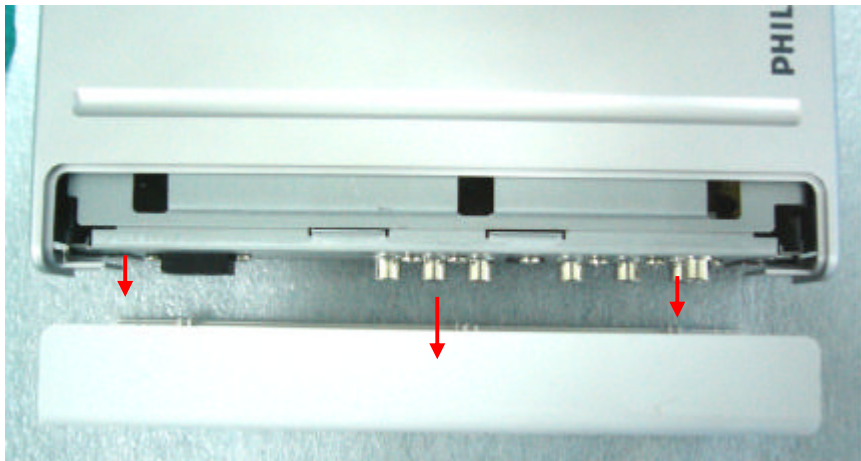


Figure 2

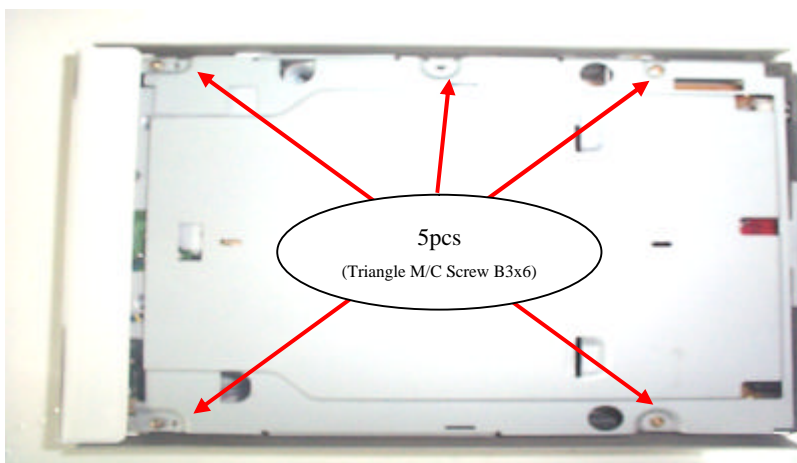


Figure 3

Mechanical and Dismantling Instructions

Step4: Remove the metal plate, the Loader and other modules will be visible. (Figure 4)

Step5: Use a small flat tip screw driver to release the snaps on the Front Panel and gently pull the Panel out from the set. (Figure 5)

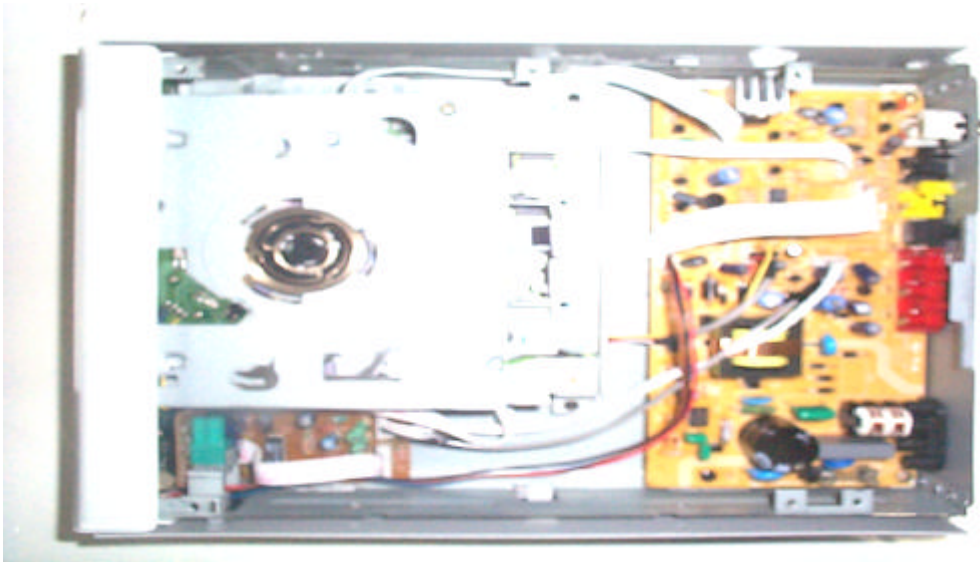


Figure 4

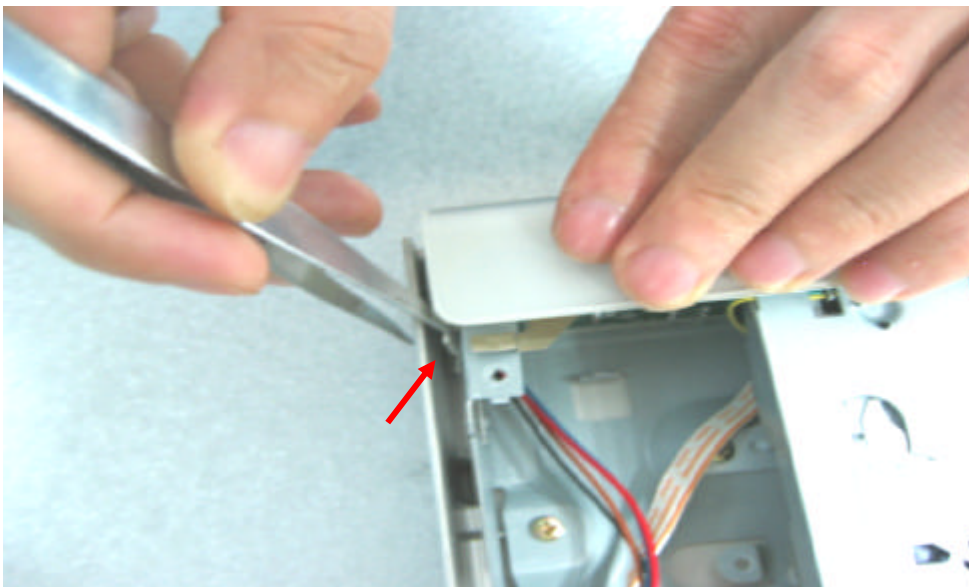


Figure 5

Step6: Remove 4 screws that added ellipses at both sides of the Loader and disconnect 4 wire connections as the arrowhead aim. (Figure 6)

Step7: Remove the power board. First remove the 5 screws that added ellipses (Figure 7), secondly remove the 8 screws inside the big ellipse, (Figure 8)

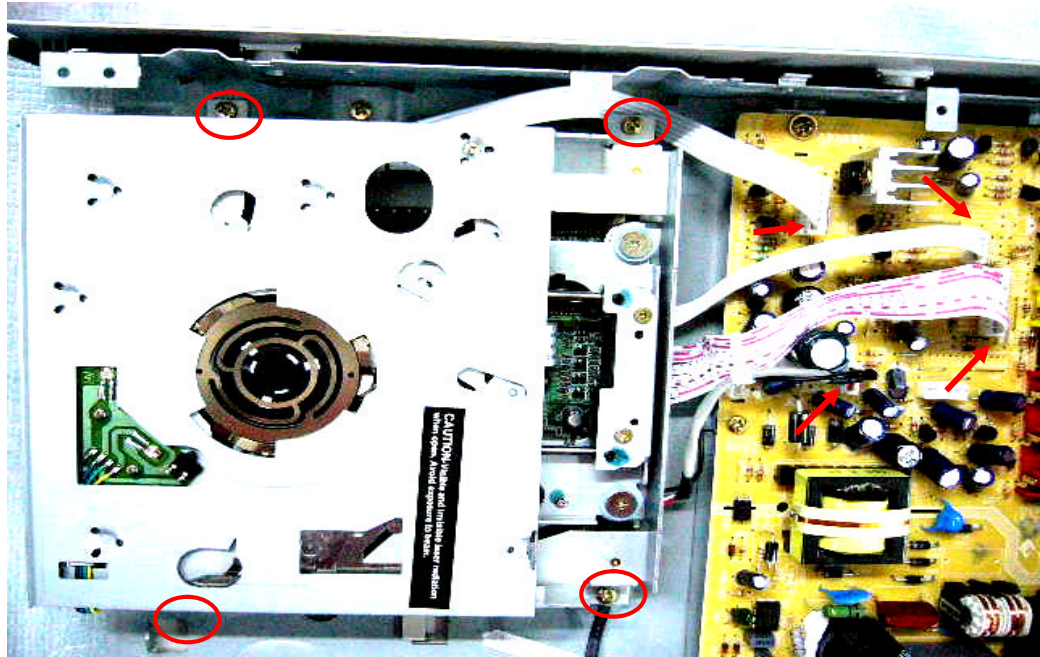


Figure 6

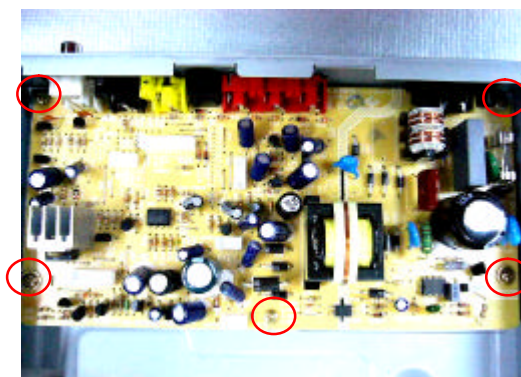


Figure 7

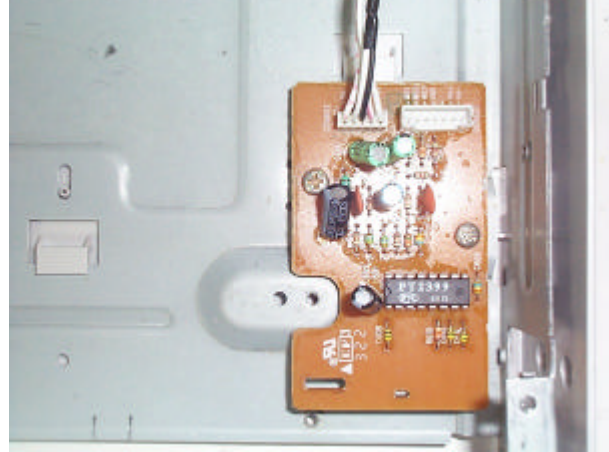


Figure 8

. Karaoke Amplifier Board & Echo Board



Karaoke Amplifier Board

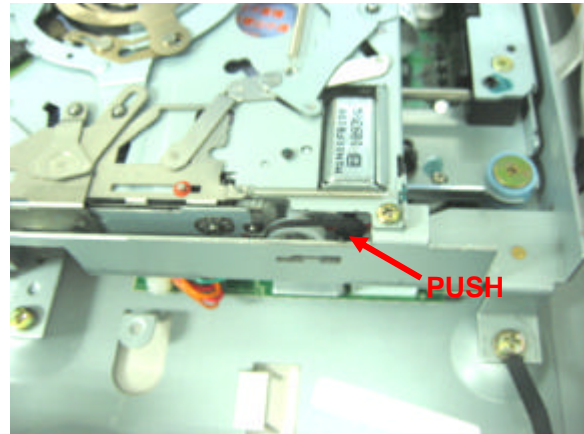


Karaoke ECHO Board

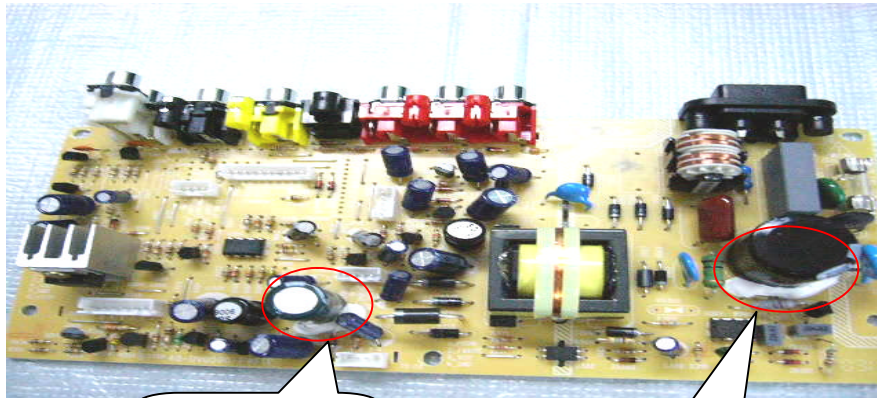
. How to remove the disc that is jammed in the loader?



Firstly, remove the screw on the Loader cover.



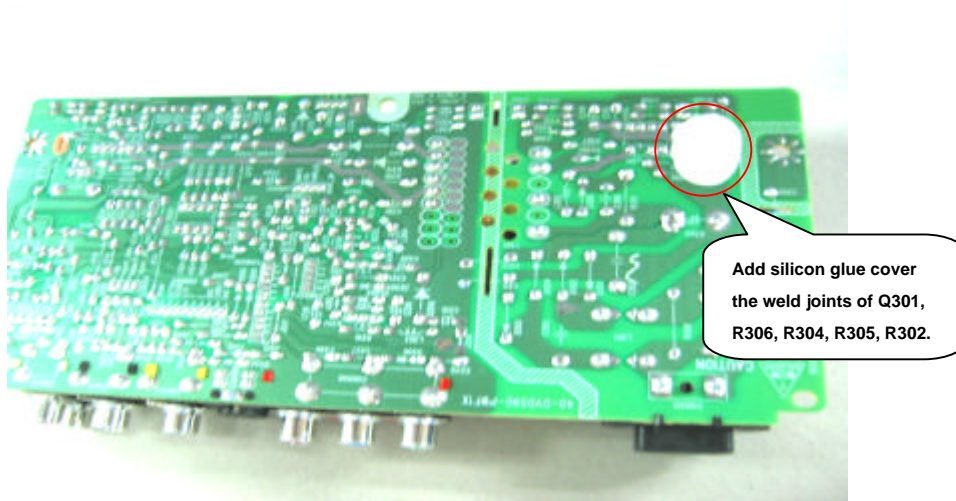
Secondly, remove the Loader cover and push the Strap forward until the Disk come out.

. ATTENTION OF REPAIRING

Add silicon glue (C326)

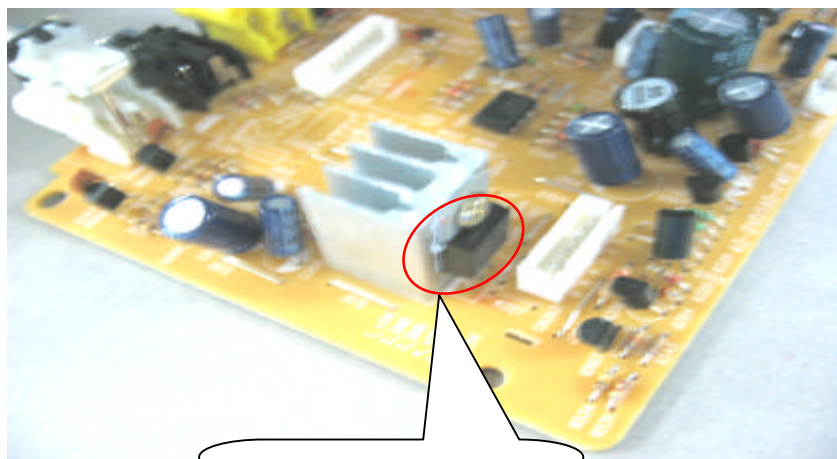
Add silicon glue (C305)

Add silicon glue around the two capacitors



Add silicon glue cover
the weld joints of Q301,
R306, R304, R305, R302.

Add silicon glue on the PCB Pads



Add the conductive silicon glue
between the IC and the heat sink

REGION CODE CHANGE & SOFTWARE UPGRADE

Upgrade Software

A. Prepare Upgrade disc

1. Start the CD Burning software and create a new CD project (data Disc) with the following settings:

Volume Label:	ALICDROM
File System:	ISO9660
Format:	Mode1: CDROM
Record Mode:	Single Session (Track-at-once), Finalized CD
2. Unzip the zip archive file and place the 2 folders (1 folder with 2 files & 1 folder with 1 dummy file) into the root directory of the new CD project.
3. Burn the data onto a blank CDR

B. Procedure for Software upgrade

1. Power up the set and insert Upgrade CDROM.
2. The set starts reading disc & response with the following display TV screen:

FIRMWARE UPGRADING
PLEASE WAIT A MOMENT
.....
3. After about 1 minute the TV screen will display:

UPGRADE SUCCESS
PLEASE TURN OFF
4. The Upgrade CDROM will eject when the upgrade is completed, removed the Upgrade CDROM.

Caution: The set must not be power off during upgrading, in that case the decoder board will be damaged.

Reading out the software version to confirm upgrading

1. Power up the set and press <Eject> button.
2. Press <Disc Menu> <1> <9> on the remote control.
3. The software version and other informations are display on the TV screen as follows:

ALI SYSTEM SETUP

DATE: yyyymmdd (= Version of application software)

MPEG F/W: xx.xx.x.x (software version of MPEG)

MPEG H/W: xx-xx-xxx

SERVO F/W: xxxxx (software version of Servo)

SERVO H/W: xxxxx.xx

VENDER: PHILIPS

VENDER VER: 590AP

DISK TYPE: NTSC

DISABLE VCD OFF

REGION CODE 3

PARENTAL CC 8

PARENTAL PW 0000

Changing the Region Code

1. Power up the set and press <Eject> button.
2. Press <Disc Menu> <1> <9> on the remote control.
3. The software version and other informations are display on the TV screen as follows:

ALI SYSTEM SETUP

DATE: yyyymmdd (= Version of application software)

MPEG F/W: xx.xx.x.x (software version of MPEG)

MPEG H/W: xx-xx-xxx

SERVO F/W: xxxxx (software version of Servo)

SERVO H/W: xxxxx.xx

VENDER: PHILIPS

VENDER VER: 590AP

DISK TYPE: NTSC

DISABLE VCD OFF

REGION CODE 3

PARENTAL CC 8

PARENTAL PW 0000

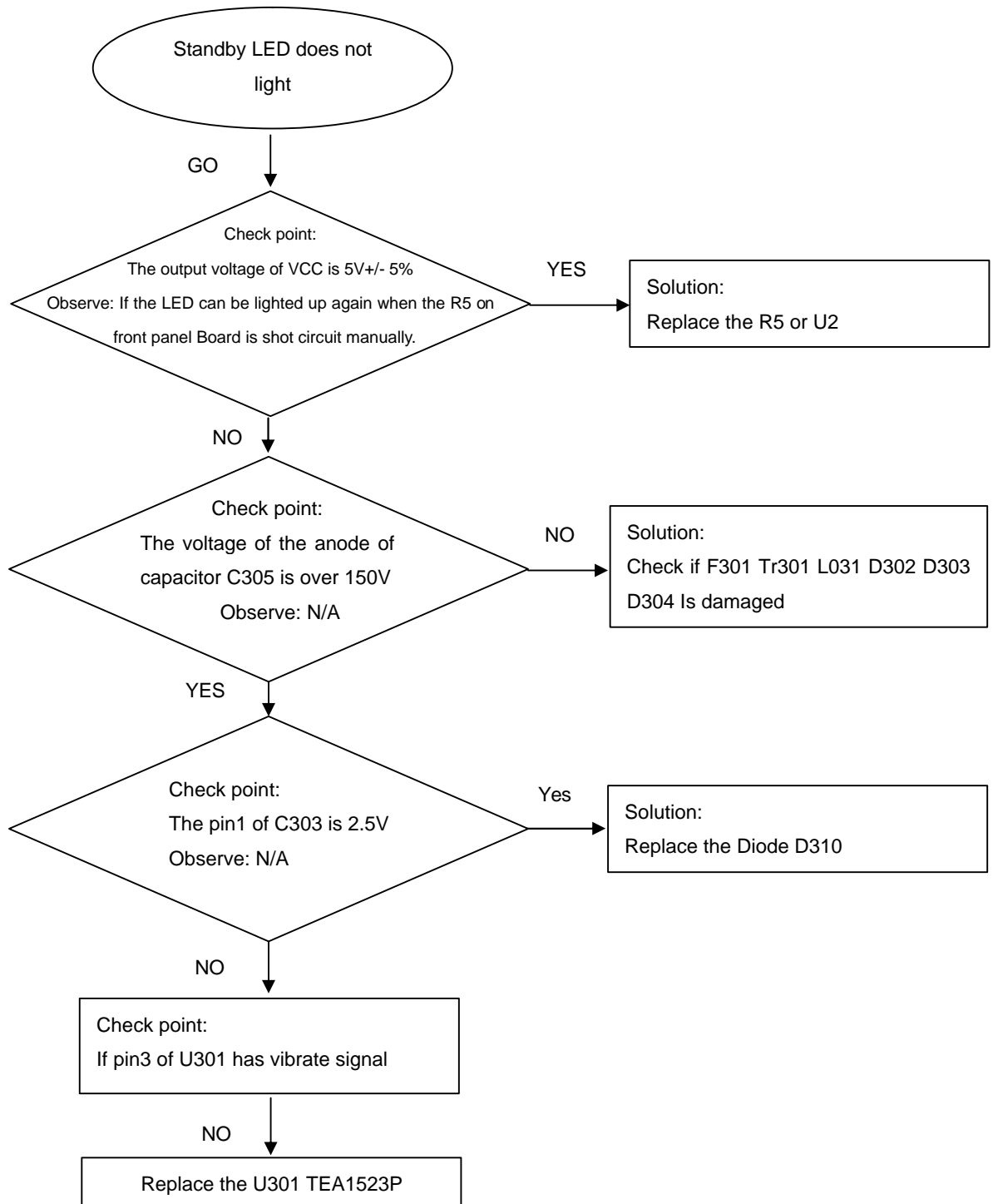
4. Highlight the Region code bar with the <Up> or <Down> cursor buttons and press <OK> button on the remote control
5. Key in the new <numeric> button as per below:

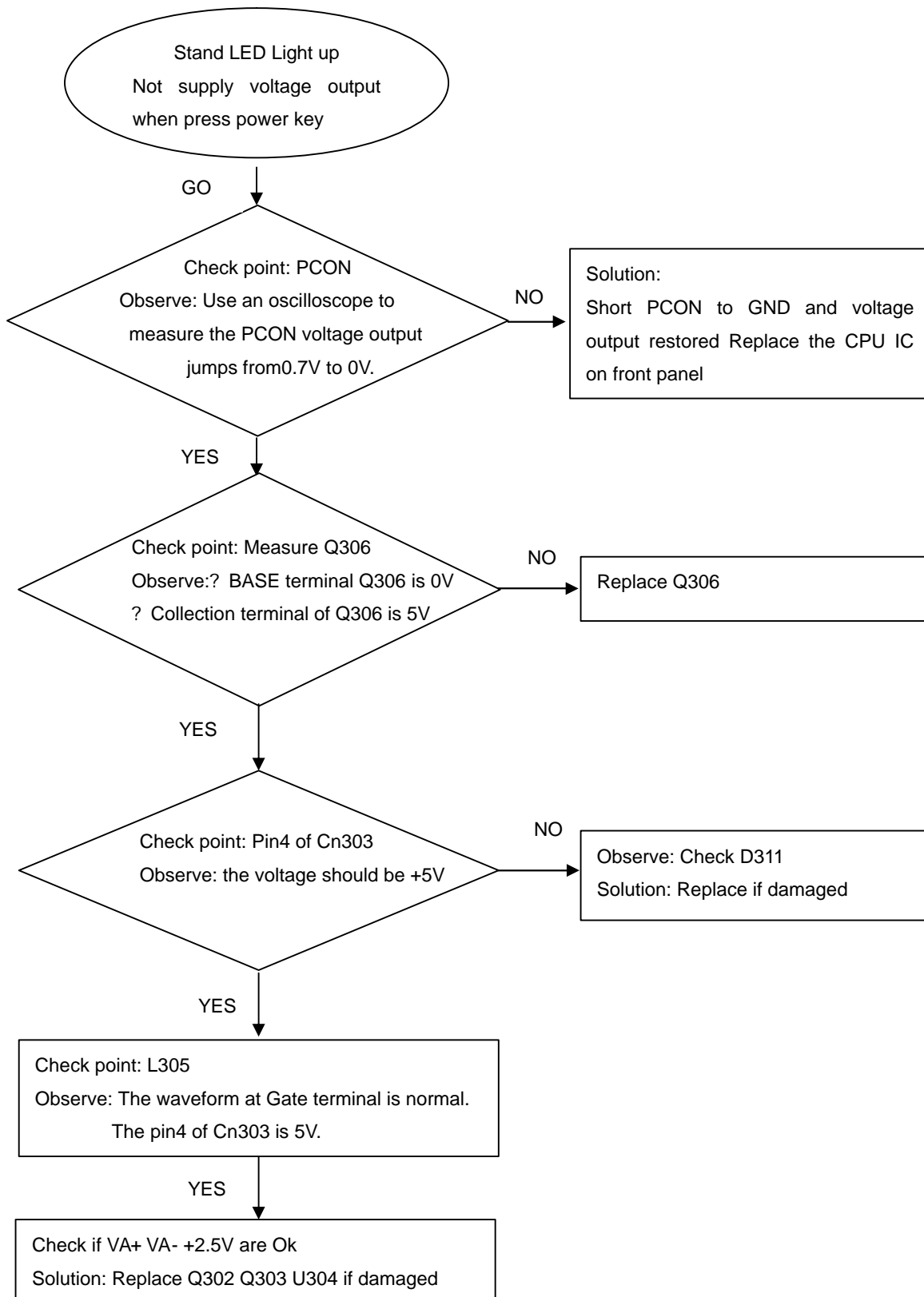
1	=	USA
2	=	Europe
3	=	AP
4	=	LATAM
5	=	India / Russia
6	=	China
6. Confirm entry by pressing <OK> button on the remote control.
7. Press the <Eject> button on the remote control to save & exit.

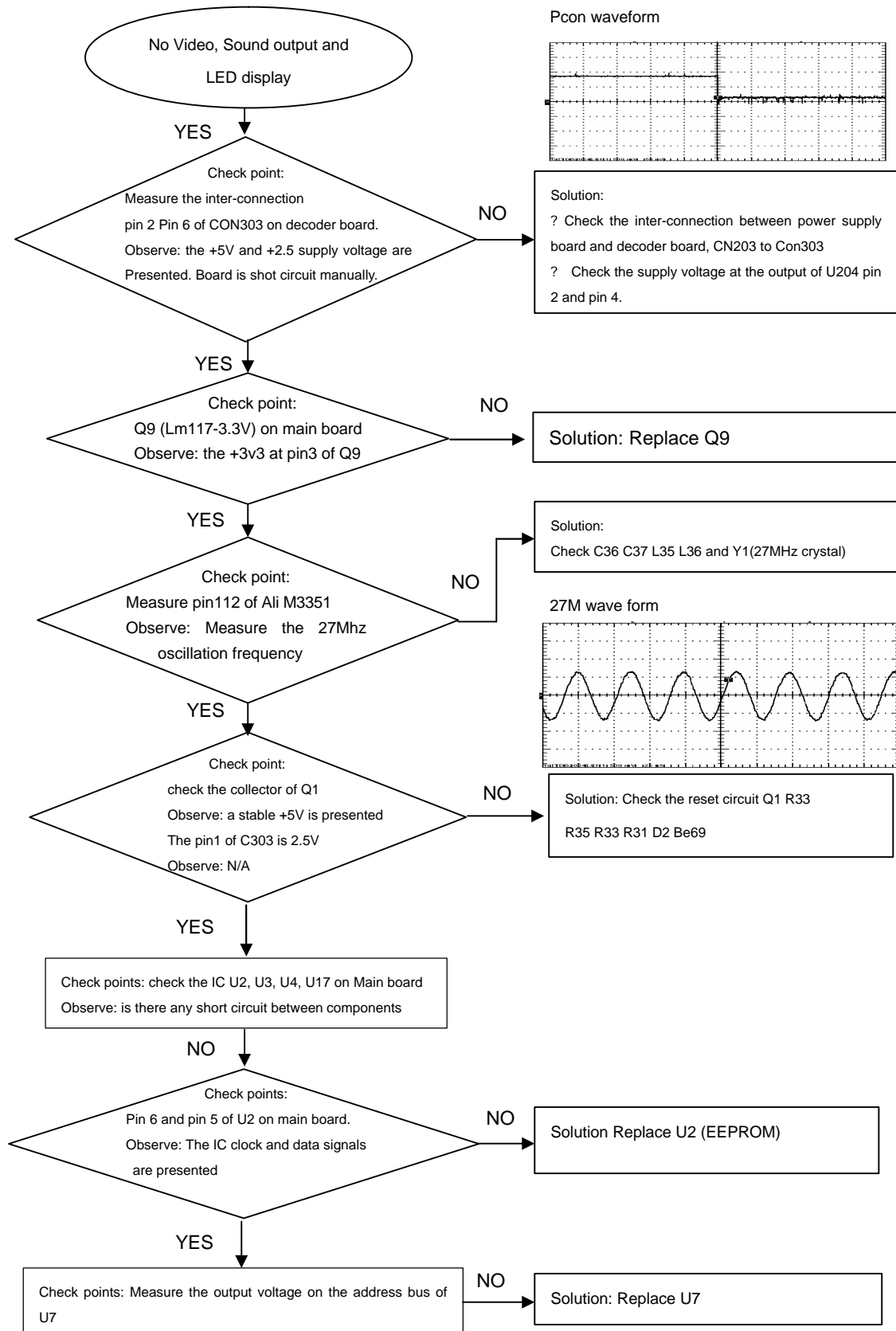
Note: Repeat steps 1 - 3 to check that new region code when necessary.

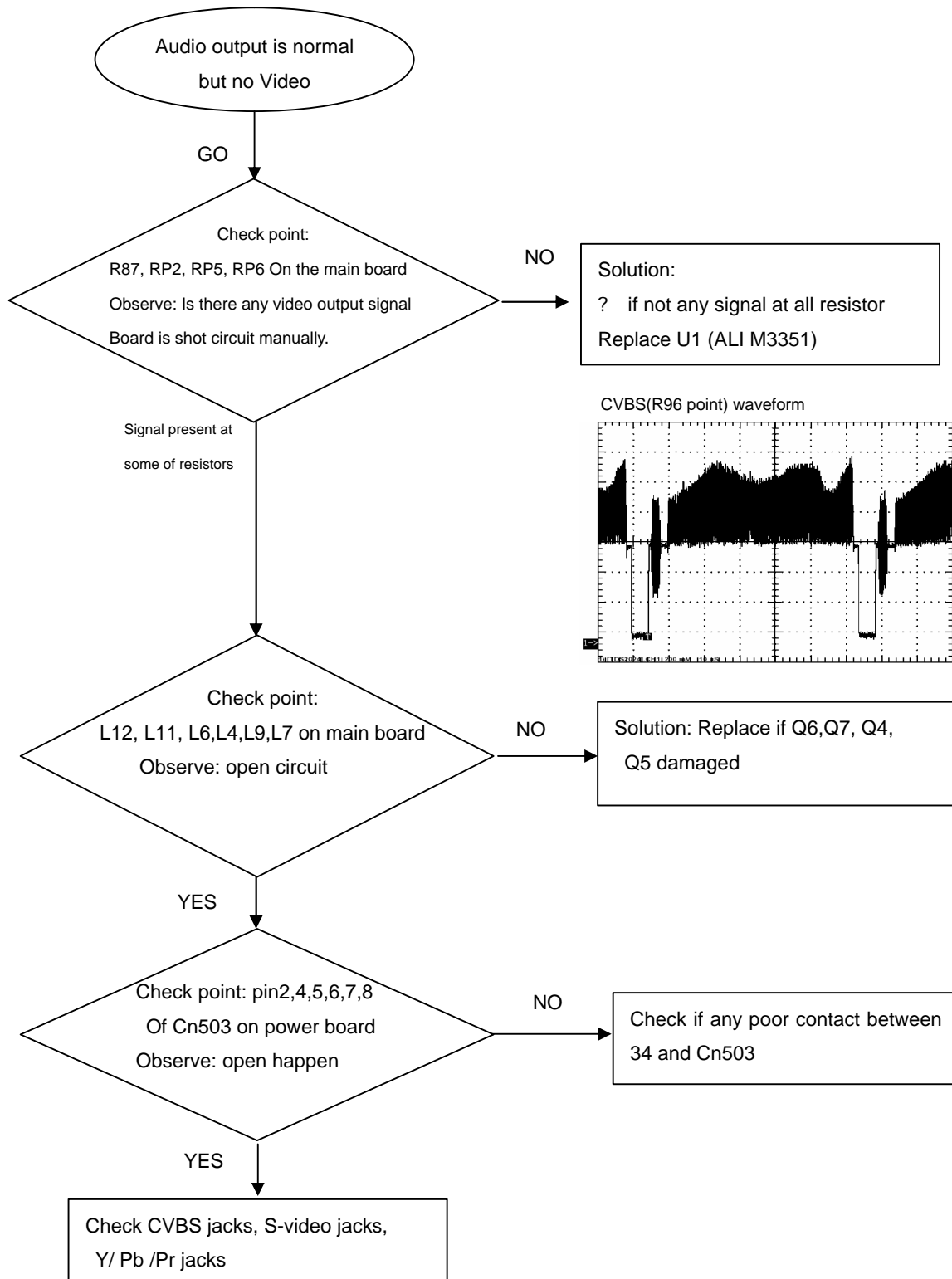
TROUBLE SHOOTING CHART

NO Picture

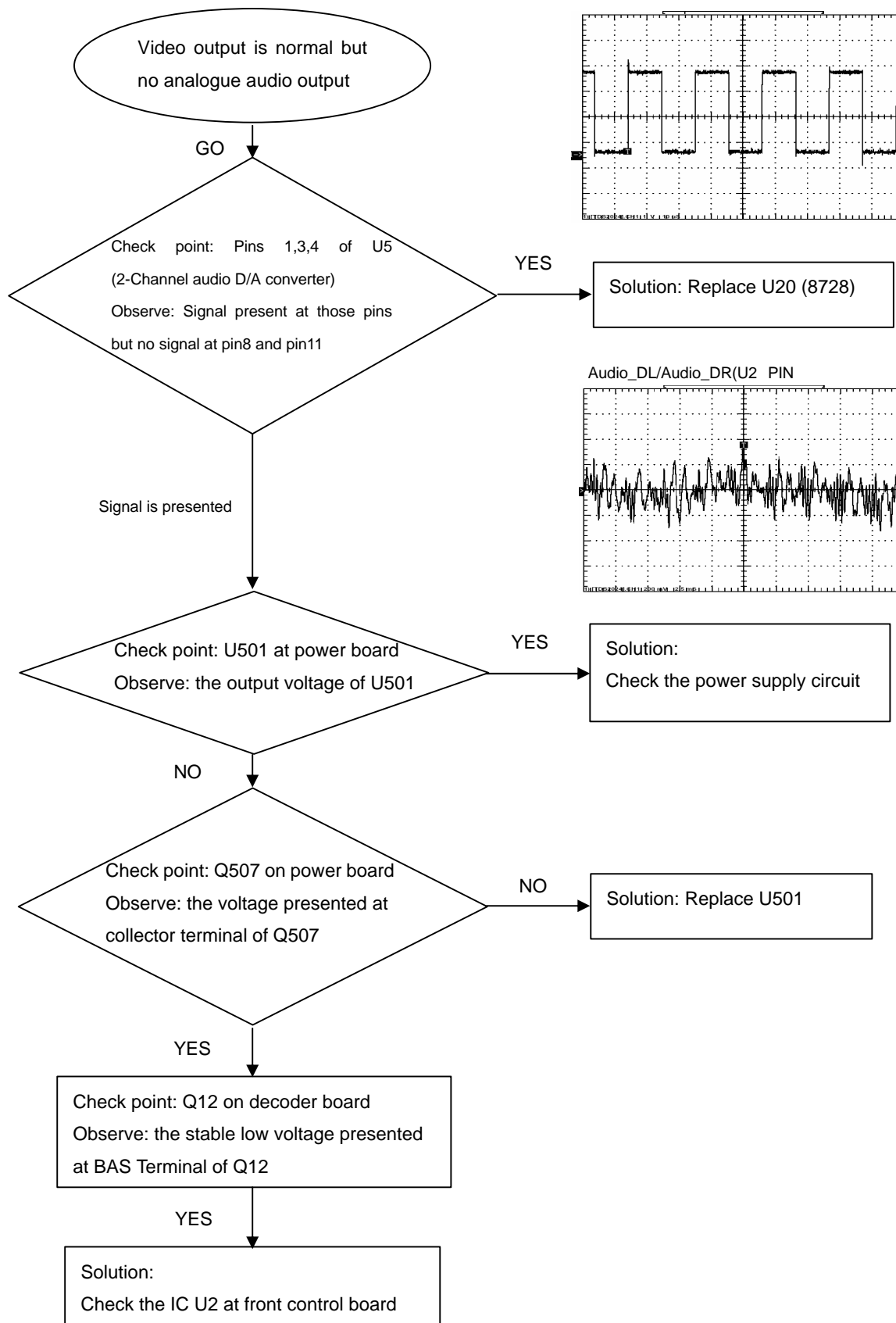


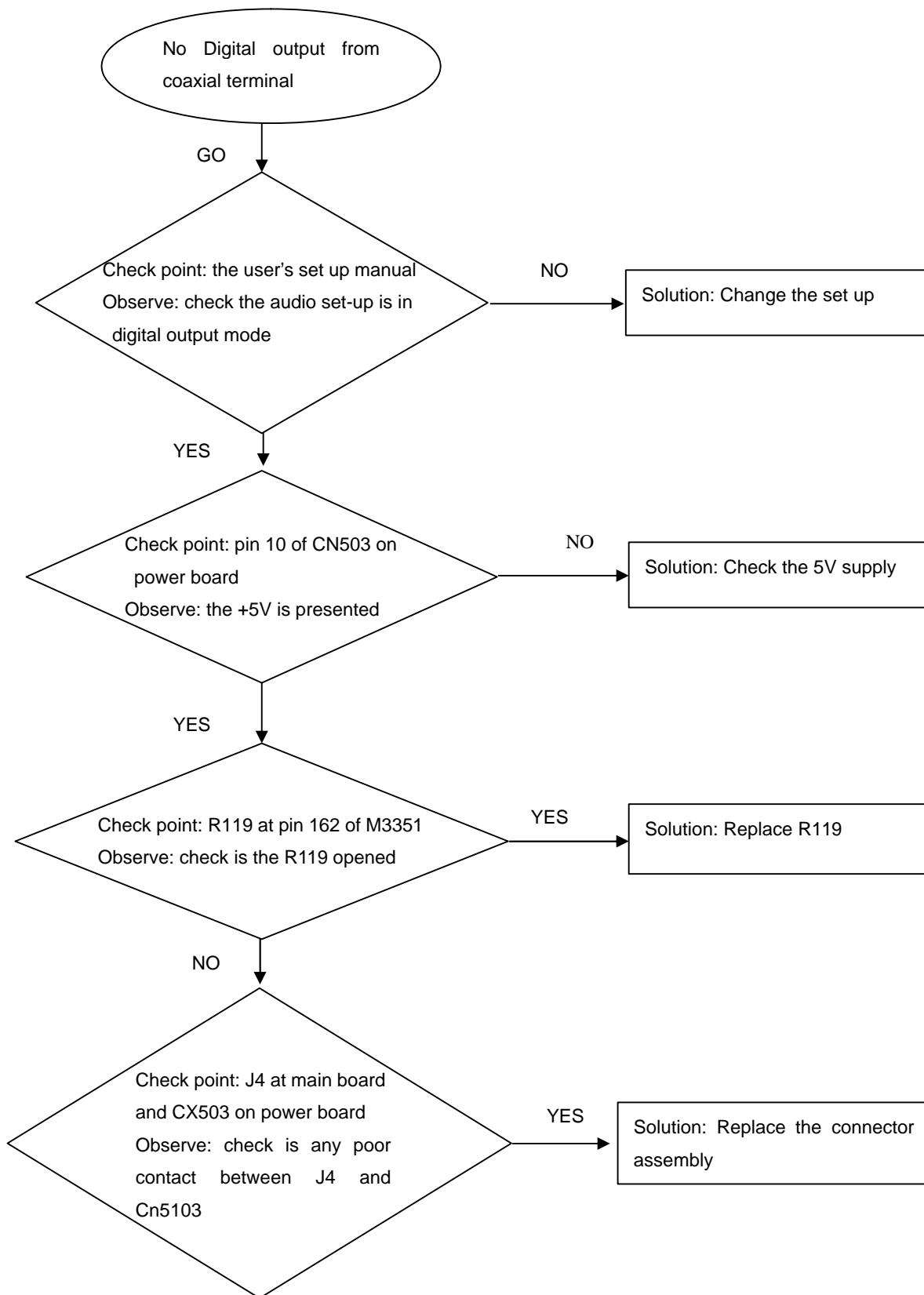
No supply at power on

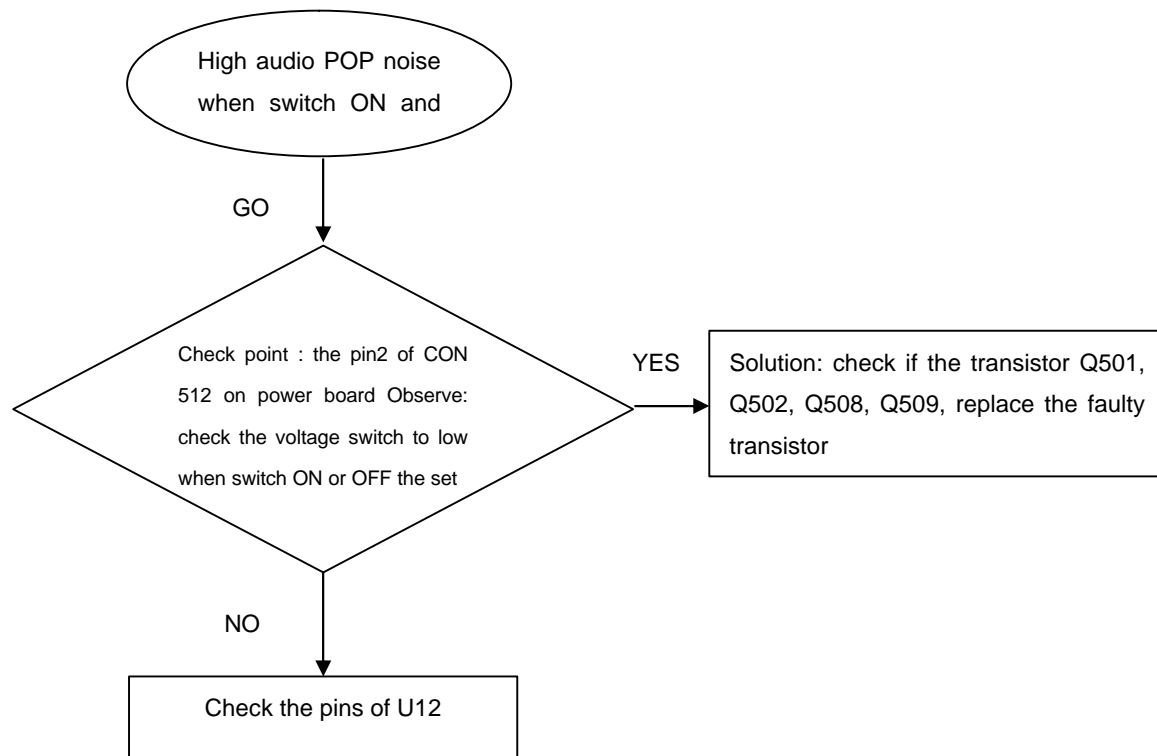
No video and sound

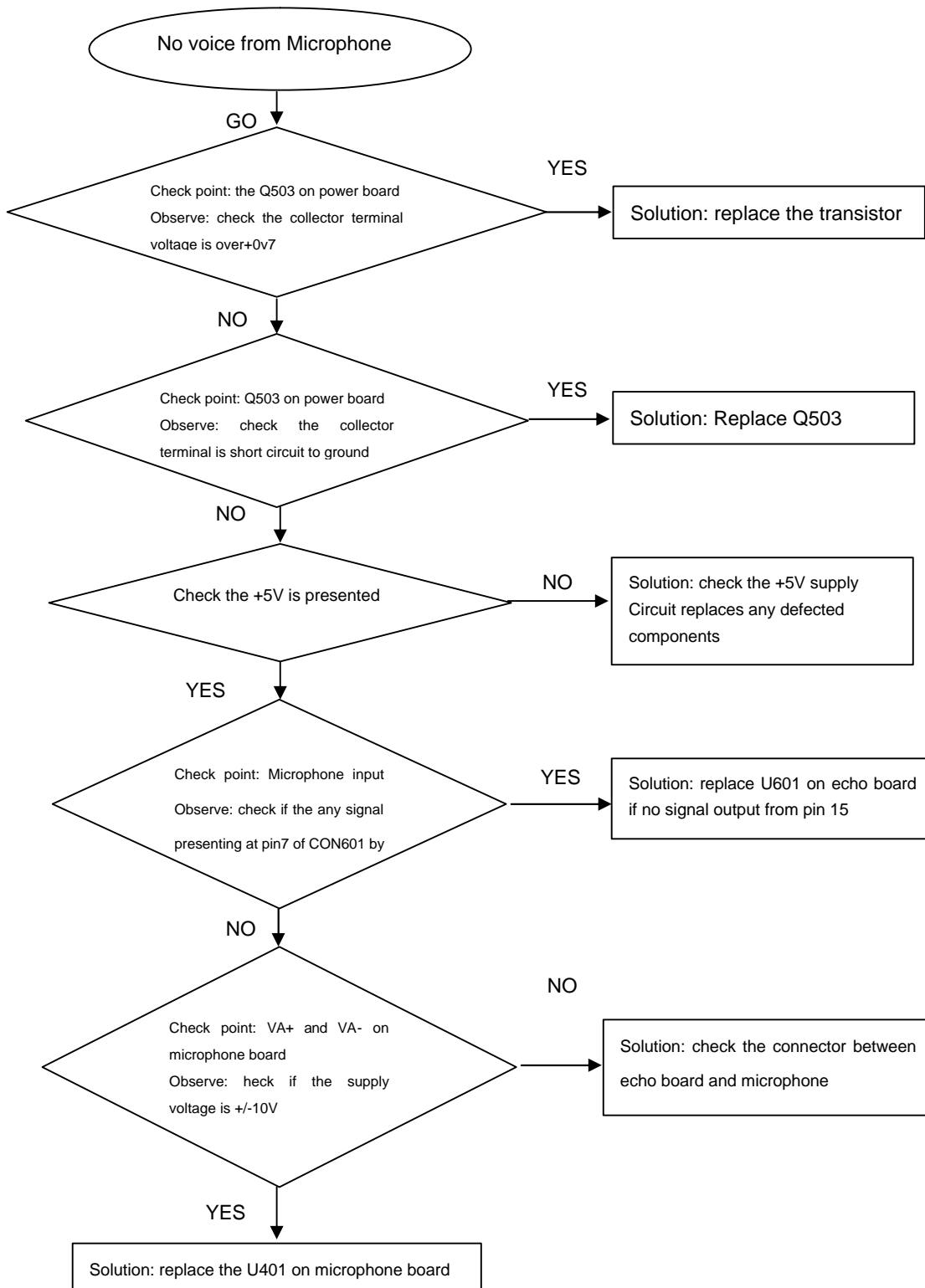
No Video

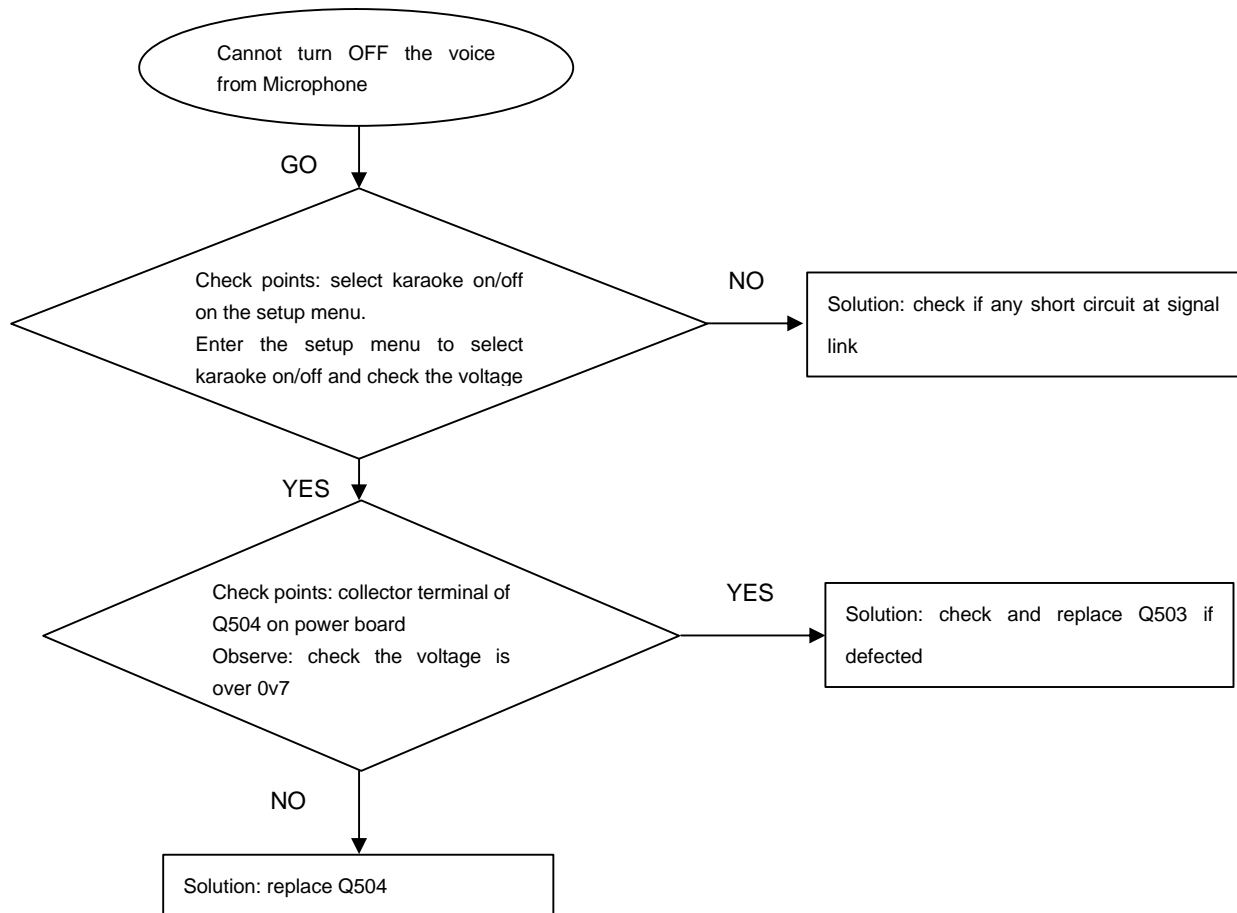
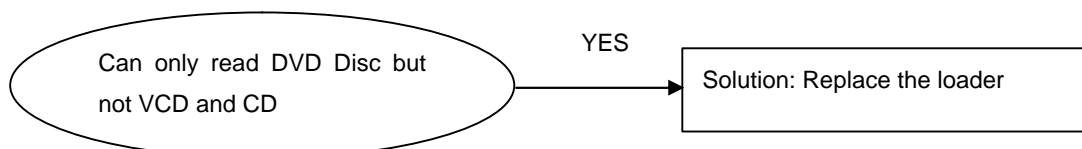
No Analog Audio Output on Cinch

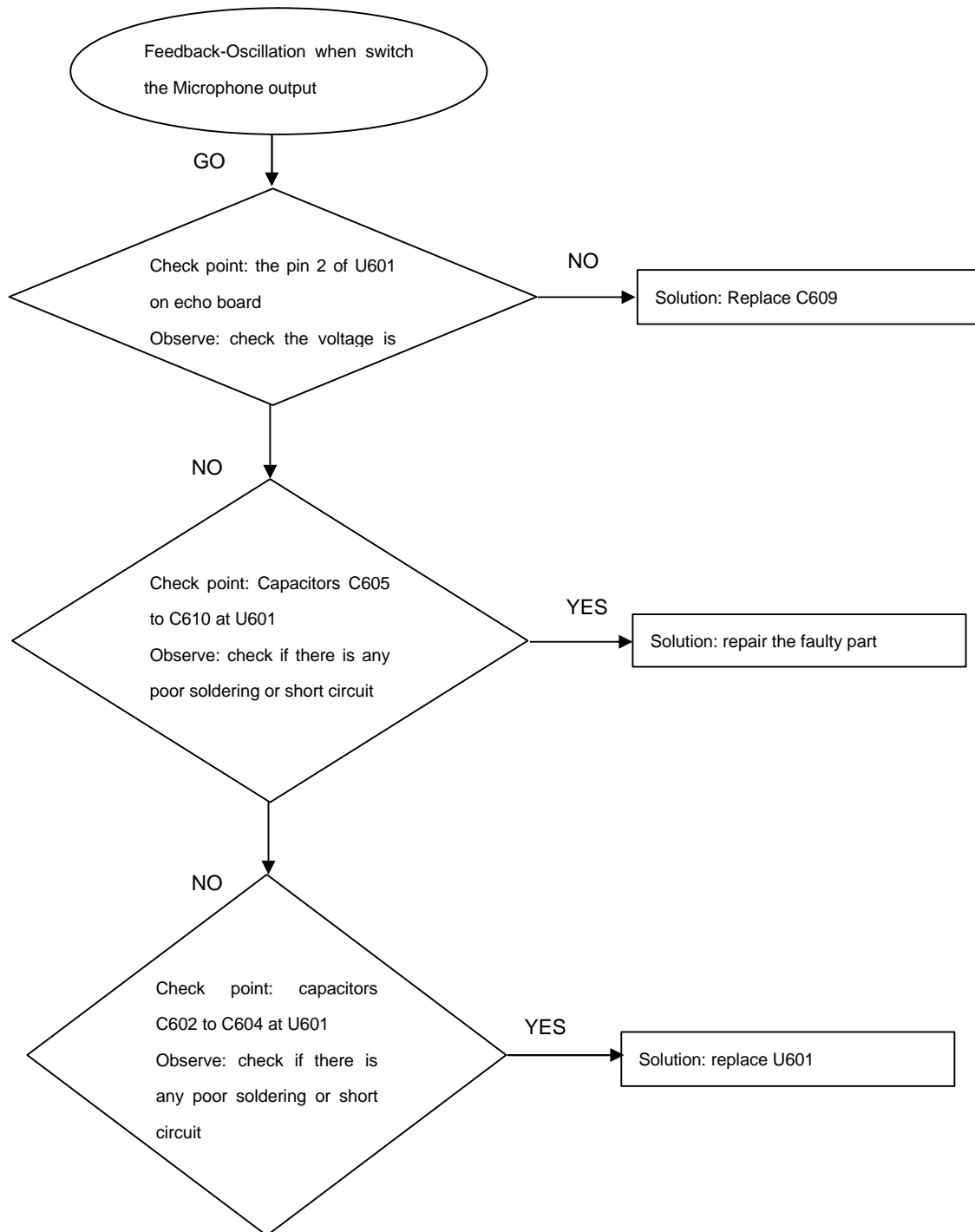


No Digital Out on Coaxial

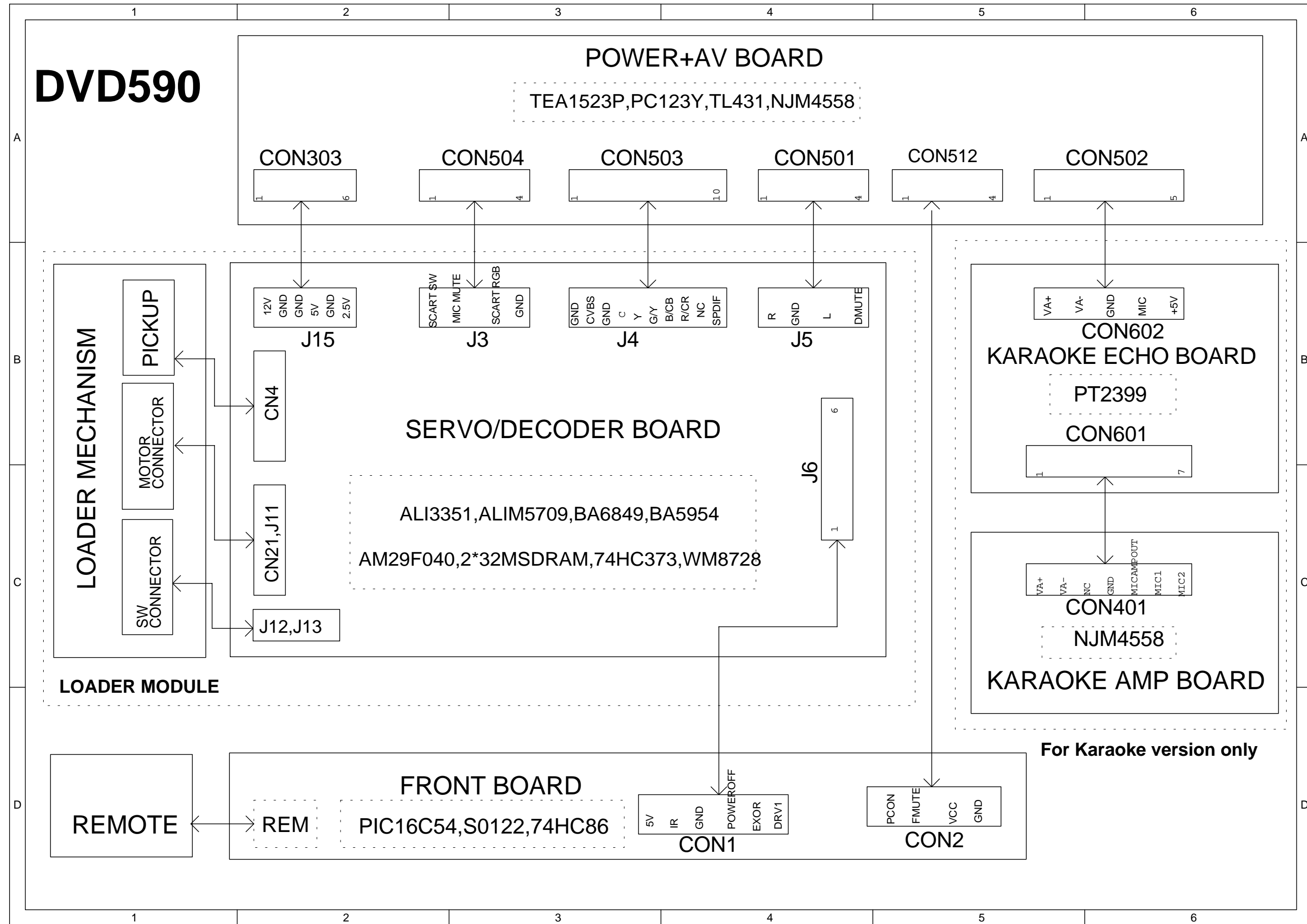
POP sound

Microphone not working

Microphone can not SW off**Can only read DVD disc**

Oscillation from Microphone

Block and Wiring Diagram

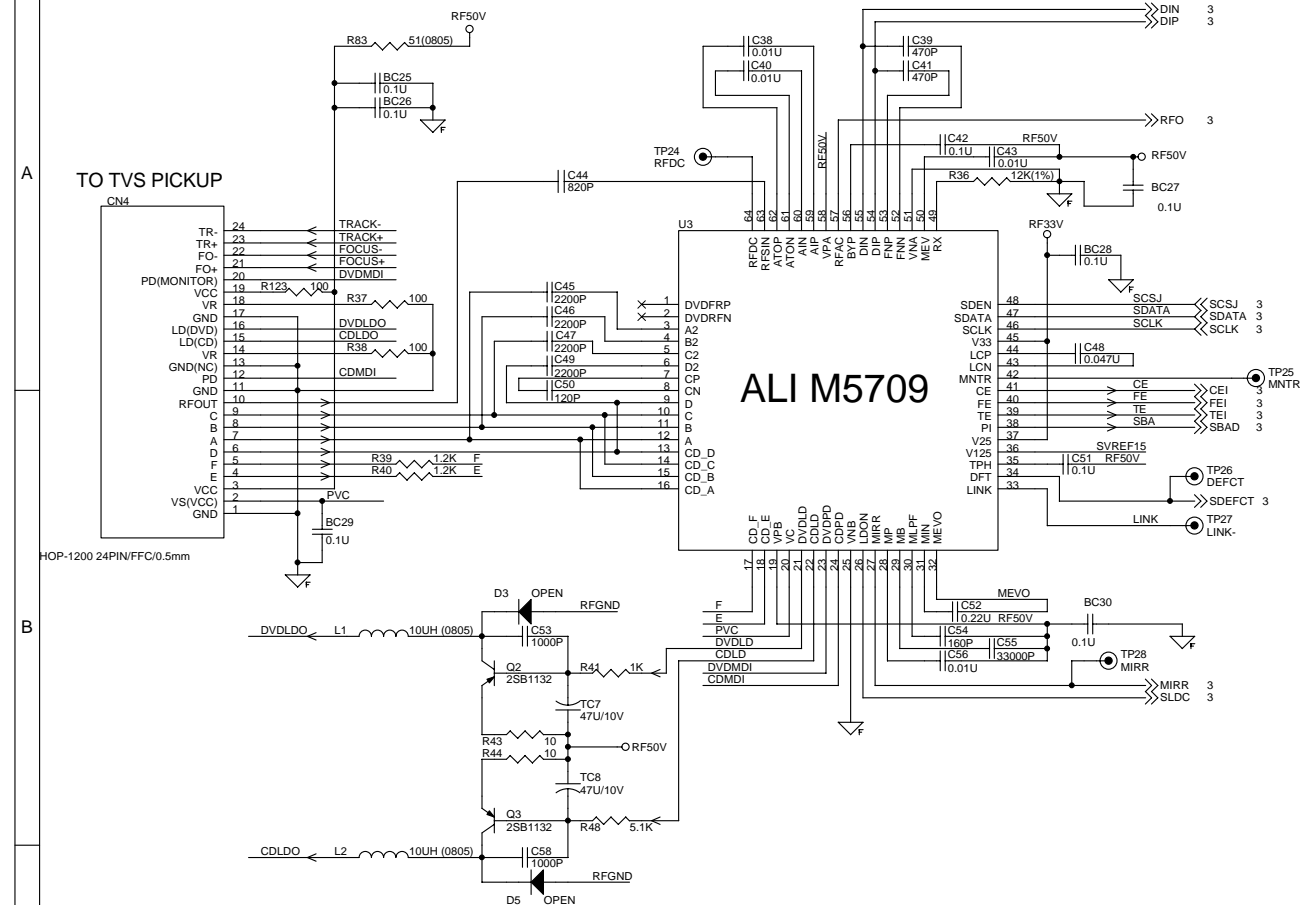


(For information only)

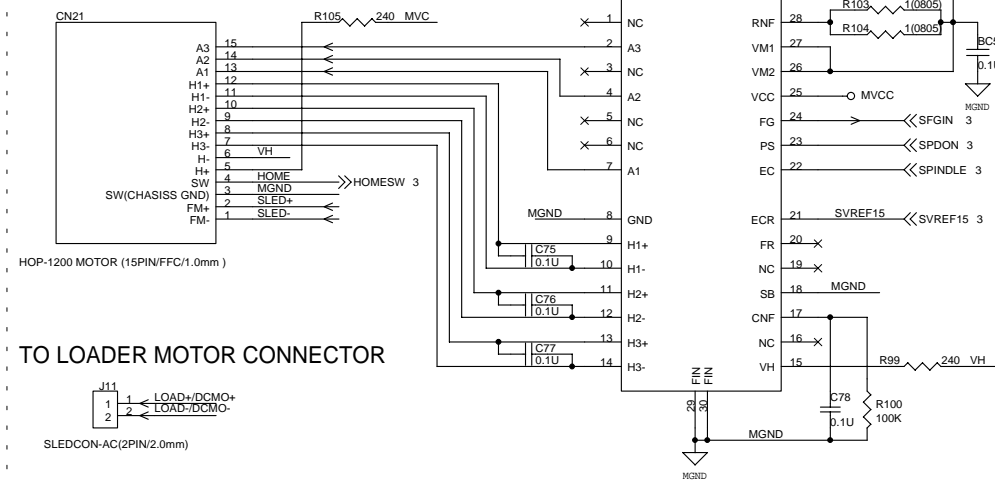
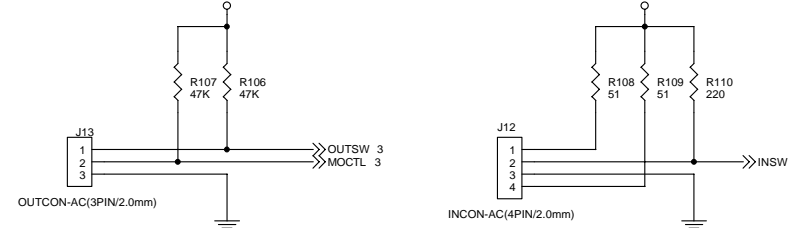
The complete Loader Module is available under service part code: 9965 000 22493

(For information only)

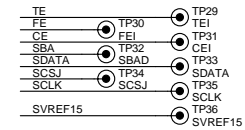
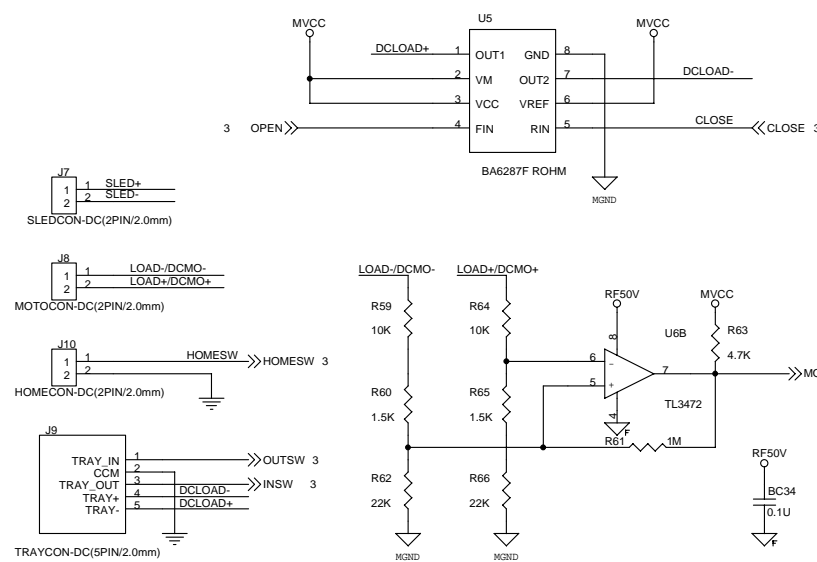
SERVO ALI M5709

TO TVS AC MOTOR
CONNECTOR

FOR AC MOTOR

J12, J13 TO LOADER
SWITCH CONNECTOR

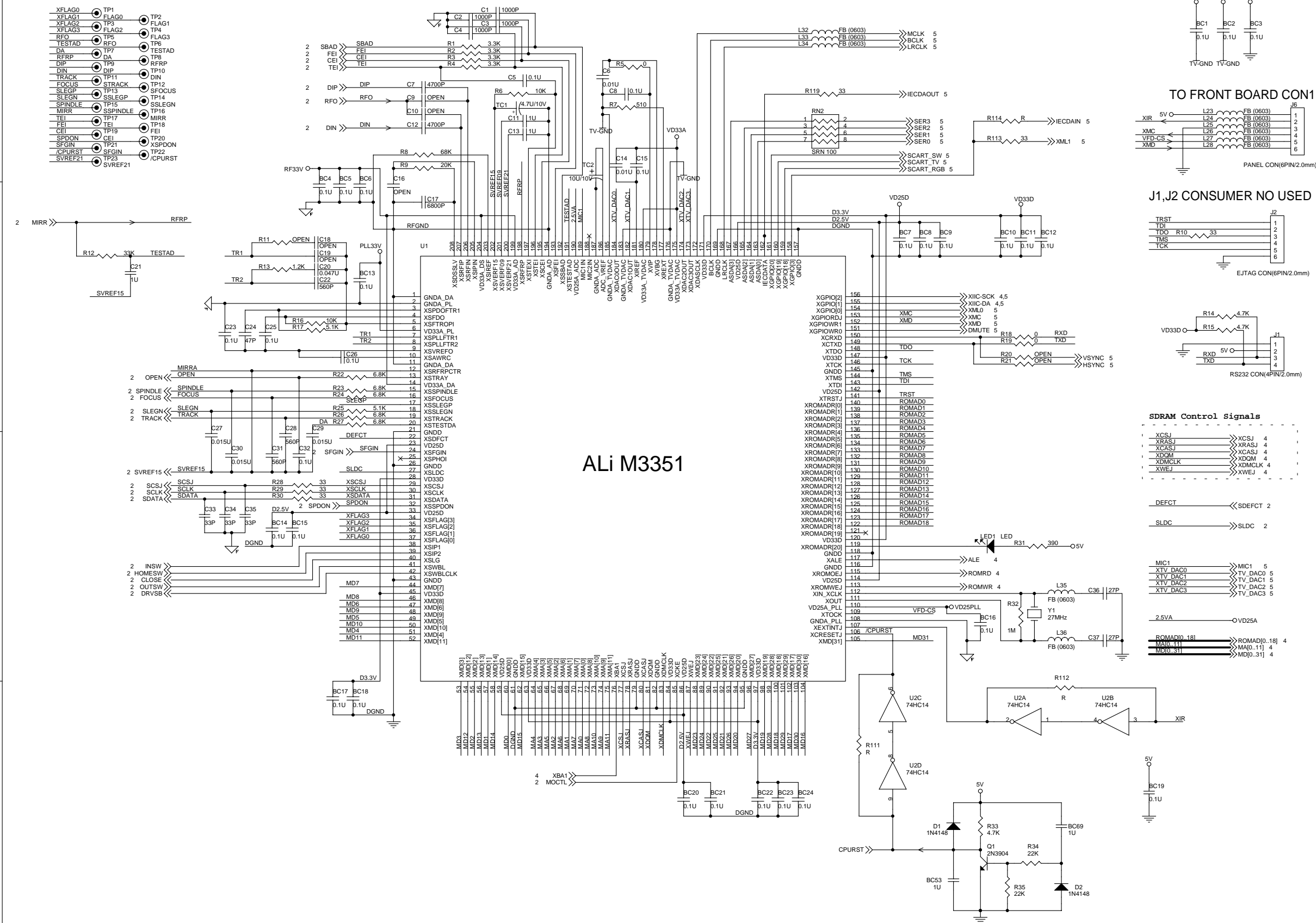
FOR DC MOTOR (OPEN)



NOTICE

	R101	R102
AC motor	NC	0 ohm
DC motor	0 ohm	NC

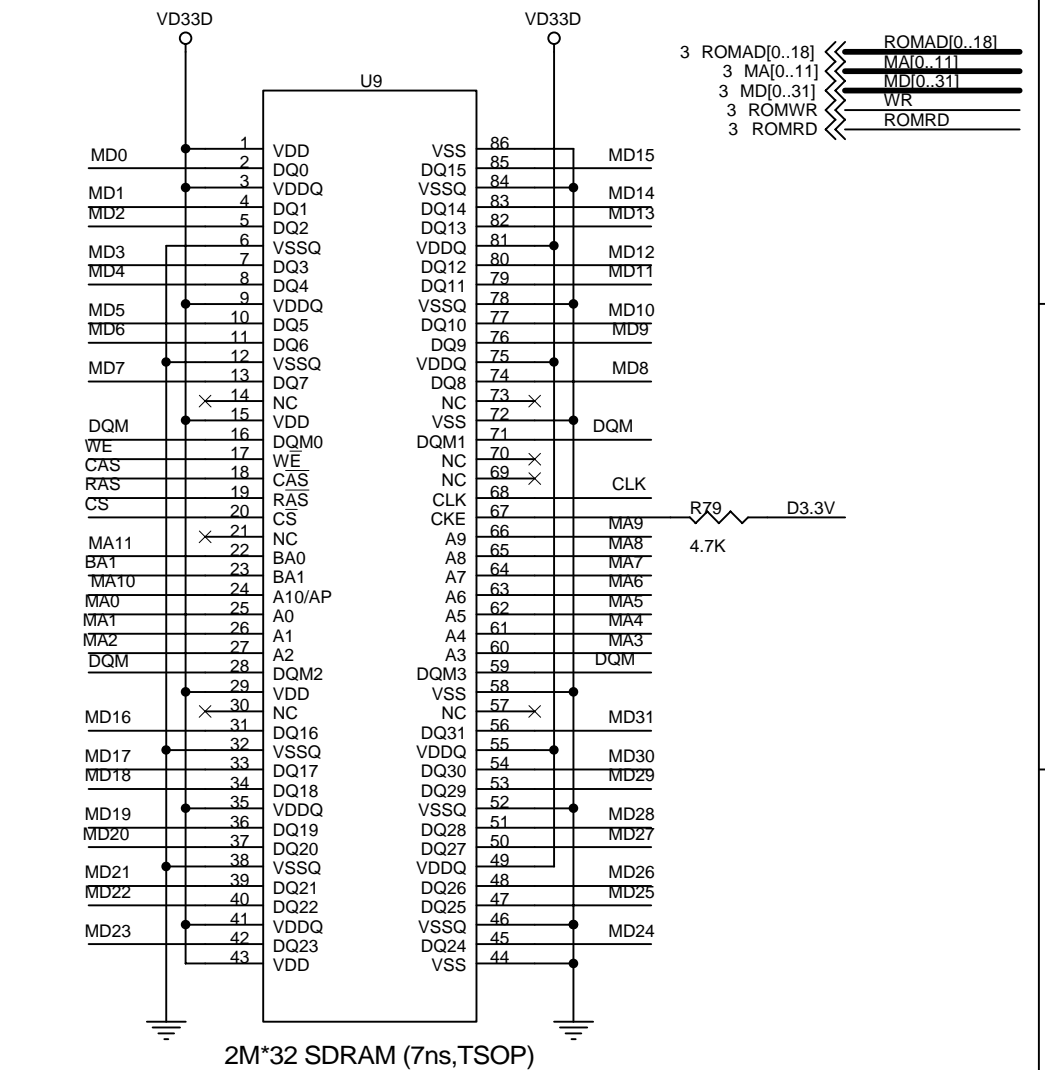
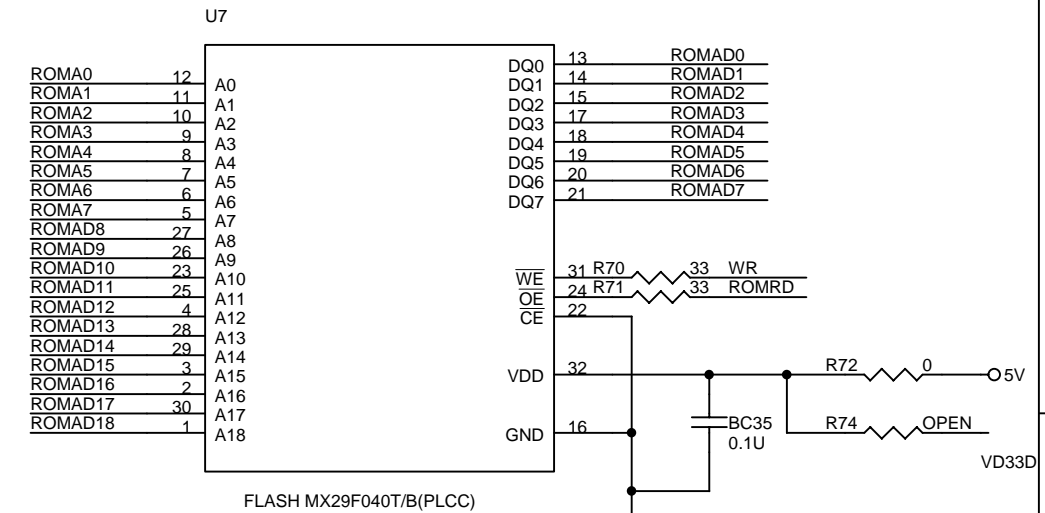
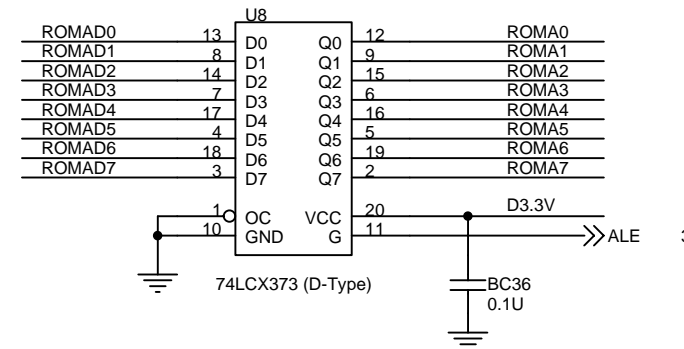
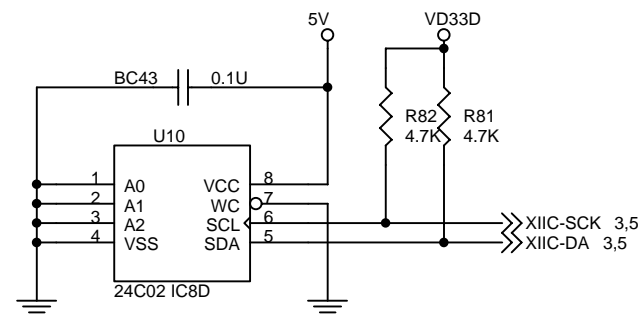
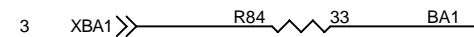
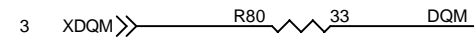
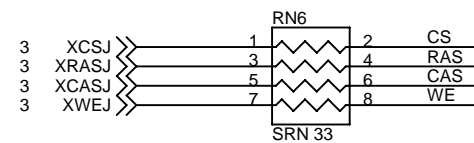
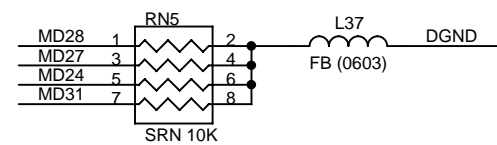
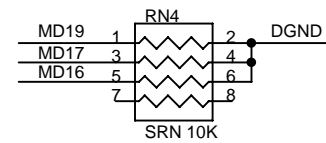
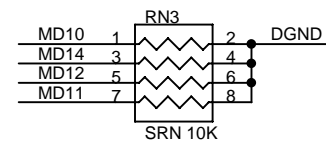
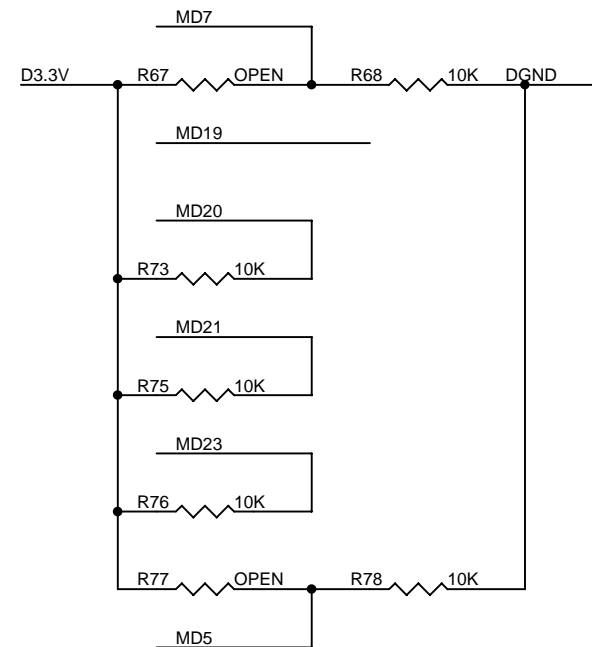
DECODER ALI3351



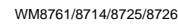
(For information only)

DECODER FLASH,SDRAM

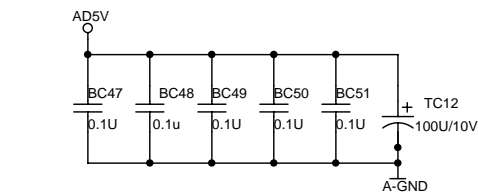
1. MD[7]: PLL94EN (Switch 81Mhz to 94Mhz)
 0: Keep 81Mhz (Default)
 1: Switch 81Mhz to 94Mhz
2. MD[5]:VGA Enable
 0: VGA disable, XCTXD/XCRXD as normal.
 1: VGA enable, HSYNC, VSYNC replace XCTXD/XCRXD.



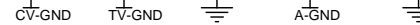
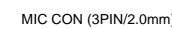
DECODER AUDIO DAC VIDEO CHANNEL



6-CHANNEL
AUDIO OUT
WOLFSON 6-CHANNEL AUDIODAC



(OPEN)



	AUDIO_L	L29	FB (0603)	12
	AUDIO_R	L30	FB (0603)	11
	GND			10
	AUDIO_SL			9
	AUDIO_SR			8
	GND			7
	AUDIO_C			6
	AUDIO_SW			5
3	DMUTE			4
	GND			3
	AUDIO_DL	L38	FB (0603)	2
	AUDIO_DR	L39	FB (0603)	1

3	IECDAOUT	L31	FB (0603)	10
3	IECDAIN	R/Cr		9
		B/Cb		8
		G/Y		7
		Y		6
		C		5
		GND		4
		CVBS		3
		GND		2
				1

3,4	XIIC-DA	R69	47	IICDAT	8
3,4	XIIC-SCK	R120	47	IICCLK	7
3	HSYNC				6
3	VSYNC				5
				GND	4
3	SCART_RGB			SCART_RGB	3
3	SCART_TV			SCART_TV	2
3	SCART_SW			SCART_SW	1

SCART&VGA CON (8PIN/2.0mm)

123456

DECODER POWER SUPPLY

ABCD

123456

ABCD

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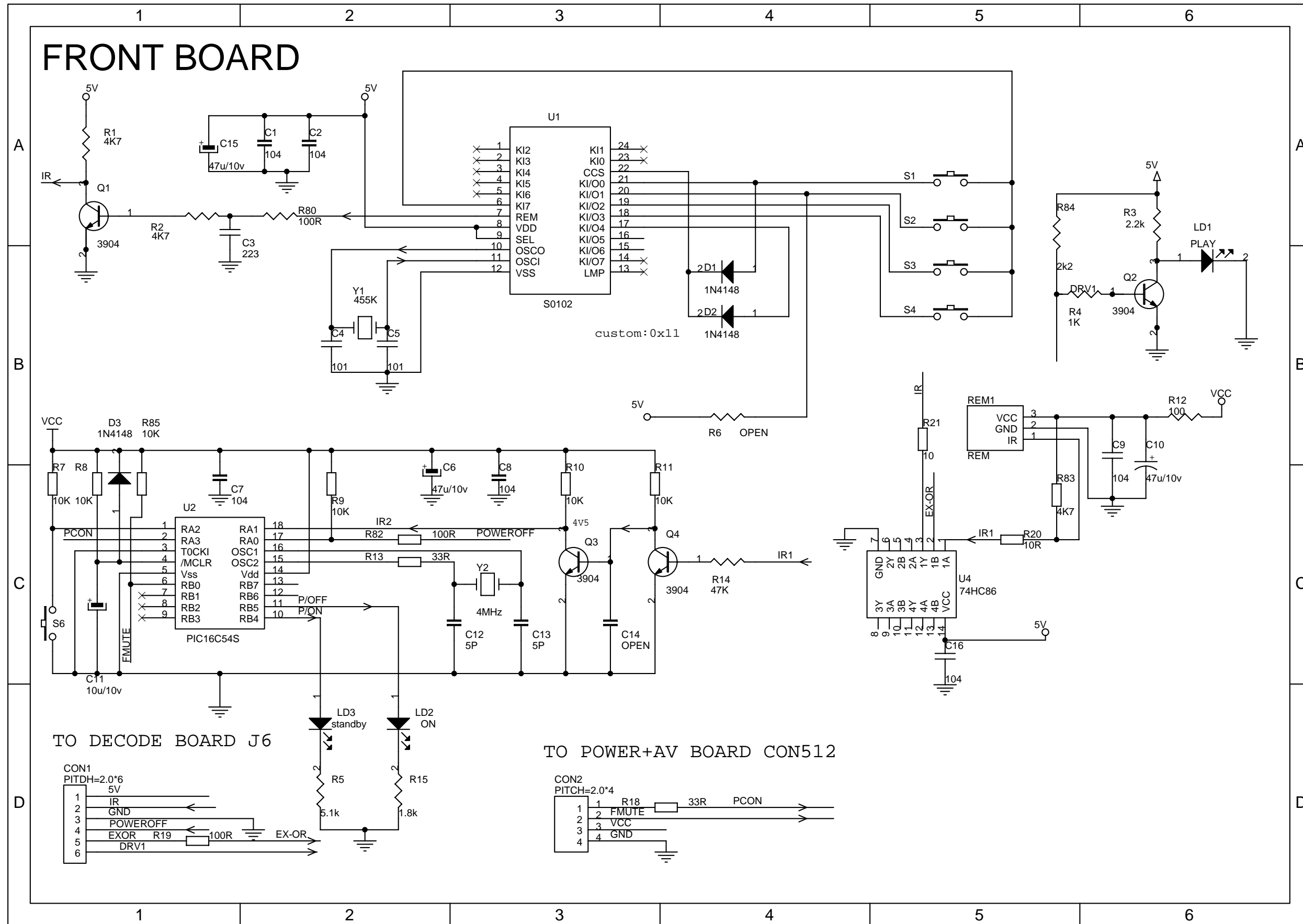
ABCD

123456</

FRONT BOARD

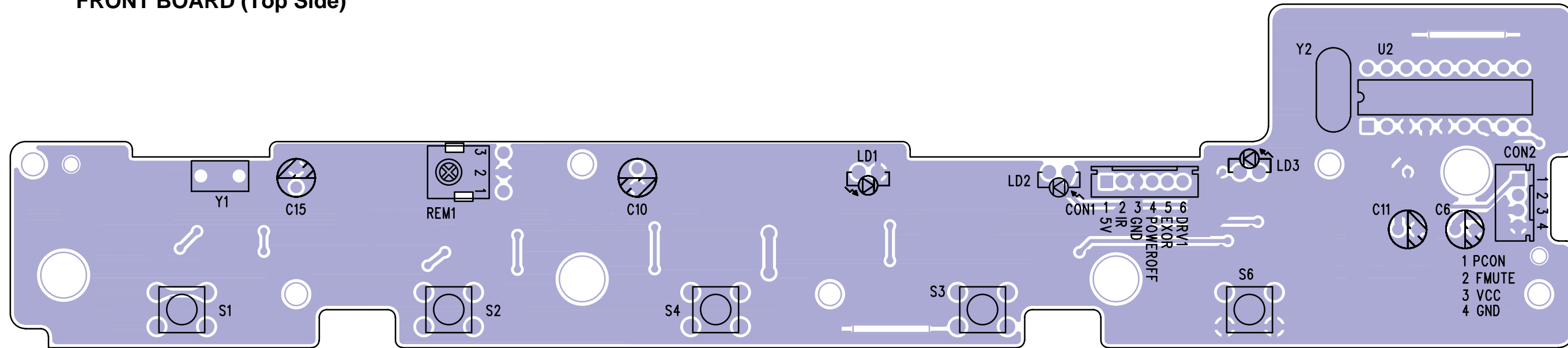
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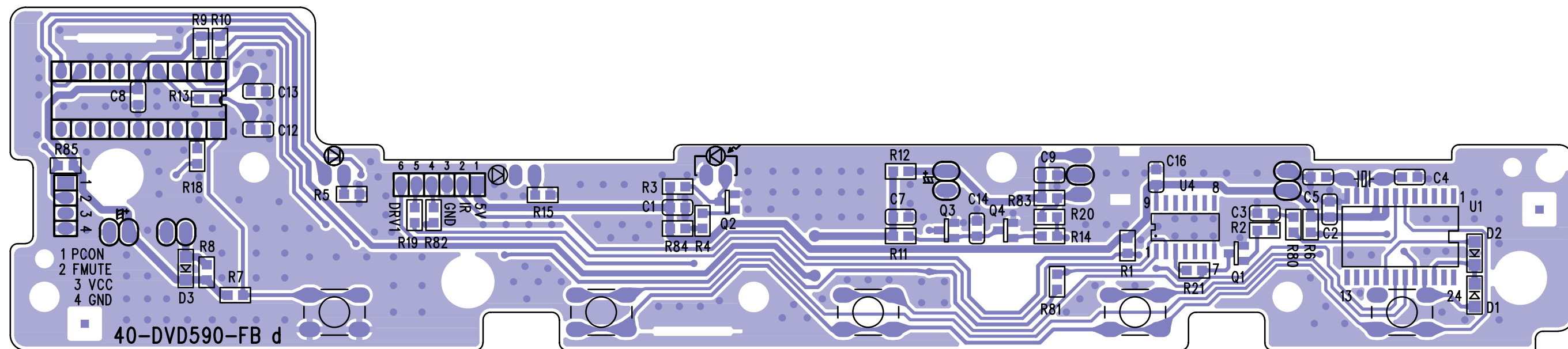


D1	B4
D2	B4
D3	B1
C1	A2
C11	C1
C12	C3
C13	C3
C14	C3
C15	A1
C16	C5
C2	A2
C3	A2
C4	B2
C5	B2
C6	C2
C7	C1
C8	C2
C9	B6
C10	B6
CON1	D1
CON2	D3
LD1	B6
LD2	C2
LD3	C2
Q1	A1
Q2	B6
Q3	C3
R1	A1
R10	B2
R11	B2
R12	B6
R13	C2
R14	C4
R15	D2
R18	D3
R19	D1
R20	C5
R21	B5
R2	A1
R3	A6
R4	B6
R5	D2
R6	B4
R7	C1
R8	C1
R80	A2
R82	C2
R83	C5
R84	A5
R85	B1
R9	C2
REM1	B5
S1	A5
S2	A5
S3	B5
S4	B5
S6	C1
U1	A3
U2	C1
U4	C5

FRONT BOARD (Top Side)



FRONT BOARD (Bottom Side)



ELECTRICAL PARTS LIST - FRONT BOARD

MISCELLANEOUS

REM1	9965 000 20398	RECEIVER MODULE AT138BV3T-10
S1	9965 000 14031	TACT SWITCH TSAB-1
S2	9965 000 14031	TACT SWITCH TSAB-1
S3	9965 000 14031	TACT SWITCH TSAB-1
S4	9965 000 14031	TACT SWITCH TSAB-1
S6	9965 000 14031	TACT SWITCH TSAB-1
Y1	9965 000 22468	CERAMIC RESONATOR 455KHZ
Y2	9965 000 14019	CRYSTAL 4MHZ

CAPACITORS

C6	9965 000 22464	ELCAP 47UF 16V 20% SMALL
C10	9965 000 22464	ELCAP 47UF 16V 20% SMALL
C11	9965 000 14026	CAP. ELEC 10UF 16V 20%SMALL
C15	9965 000 22464	ELCAP 47UF 16V 20% SMALL

DIODES

D1	4822 130 81637	PMLL4148L
D2	4822 130 81637	PMLL4148L
D3	4822 130 81637	PMLL4148L
LD1	9965 000 22465	LED BT-402YOEN-30-605B
LD2	9965 000 22465	LED BT-402YOEN-30-605B
LD3	9965 000 20399	LED RED HFR103 (3MM)

TRANSISTORS

Q1	9965 000 20152	MMBT3904LT1 SMD SOT23
Q2	9965 000 20152	MMBT3904LT1 SMD SOT23
Q3	9965 000 20152	MMBT3904LT1 SMD SOT23
Q4	9965 000 20152	MMBT3904LT1 SMD SOT23

INTEGRATED CIRCUITS

U1	9965 000 22466	IC S0102
U2	9965 000 14022	PIC16C54-SW FOR ALL 580M-MARKED!
U4	9965 000 22467	IC 74HC86D

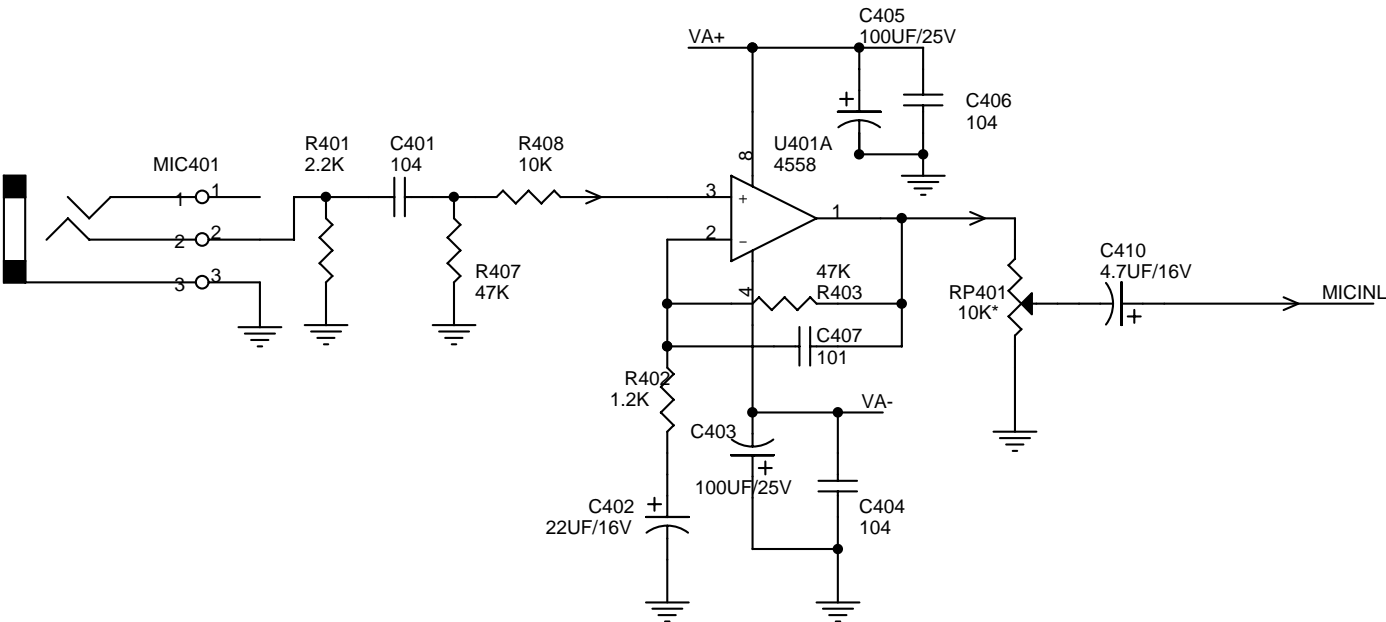
Note: Only the parts mentioned in this list are normal service spare parts.

KARAOKE AMPLIFIER & ECHO BOARD

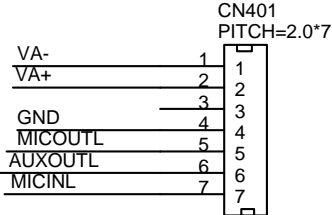
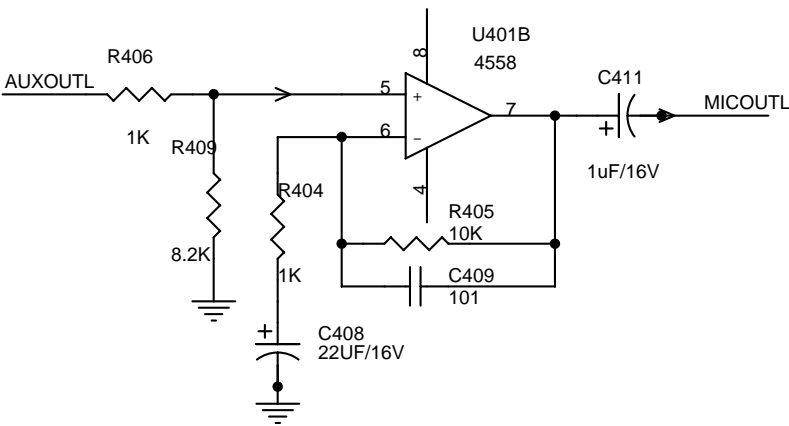
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. Karaoke Amplifier & ECHO Board-Component & Chip Layout.....	8-4
. Electrical Parts List.....	8-5

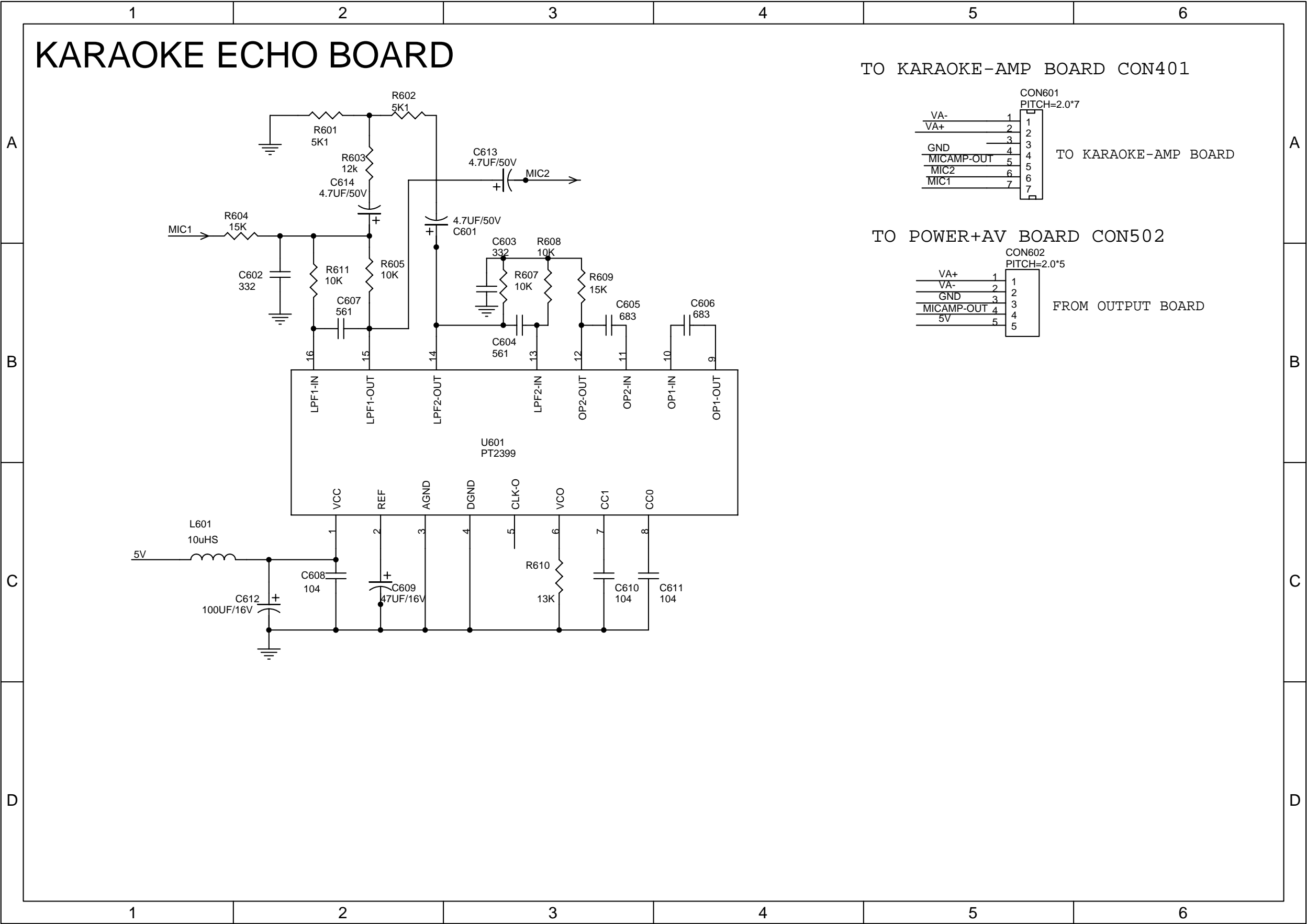
KARAOKE AMPLIFIER BOARD



TO KARAOKE-ECHO BOARD CON601

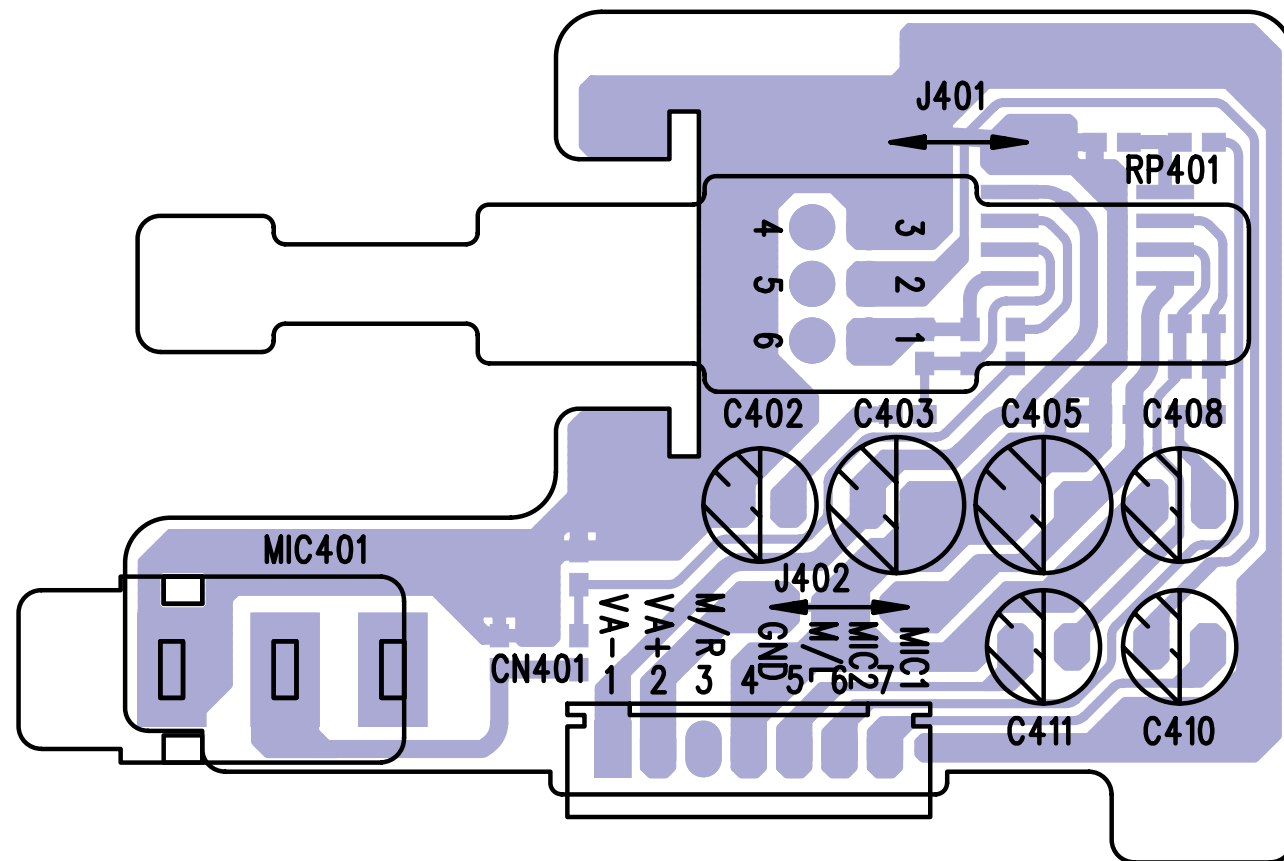


- C401 A2
- C402 B3
- C404 B3
- C405 A3
- C406 A3
- C407 B3
- C408 D2
- C409 C2
- C410 A3
- C411 C2
- CN401 C4
- MIC401 A1
- R401 A2
- R402 B3
- R403 B3
- R404 C2
- R405 C2
- R406 C2
- R407 A2
- R408 A2
- R409 C2
- RP401 B3
- U401B C2
- U401A A3

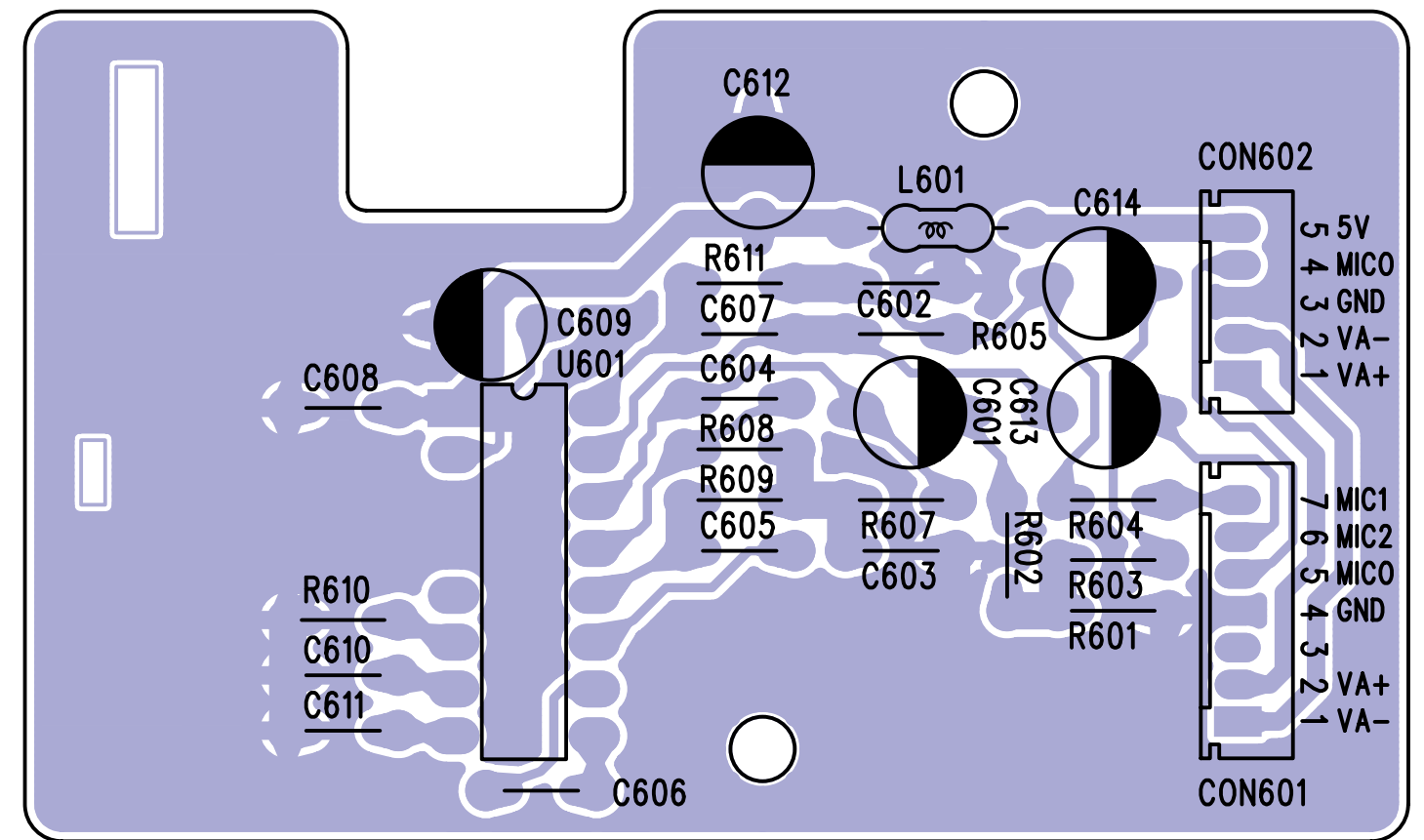


C601	A3
C602	B2
C603	B3
c604	A1
C605	B3
C606	B4
C607	B2
C608	C2
C609	C2
C610	C3
C611	C4
C612	C2
C613	A3
C614	A2
CON601	A5
CON602	B5
L601	C1
R10	C3
R601	A2
R602	A2
R603	A2
R604	A1
R605	B2
R607	B3
R608	B3
R609	B3
R611	B2
U601	B3

KARAOKE AMPLIFIER BOARD



KARAOKE ECHO BOARD



ELECTRICAL PARTS LIST - KARAOKE AMPLIFIER AND ECHO BOARDS

MISCELLANEOUS

MIC401	9965 000 14041	EARPHONE SOCKET CK3-3.5-3WK-E
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CAPACITORS

C403	4822 124 40207	100UF20% 25V
C405	4822 124 40207	100UF20% 25V

RESISTORS

RP401	9965 000 14035	POTM ROT. WH09GTX-1C-B10K-F25
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COILS & FILTERS

L601	9965 000 14082	COIL CHOKE 10UH 10%
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INTEGRATED CIRCUITS

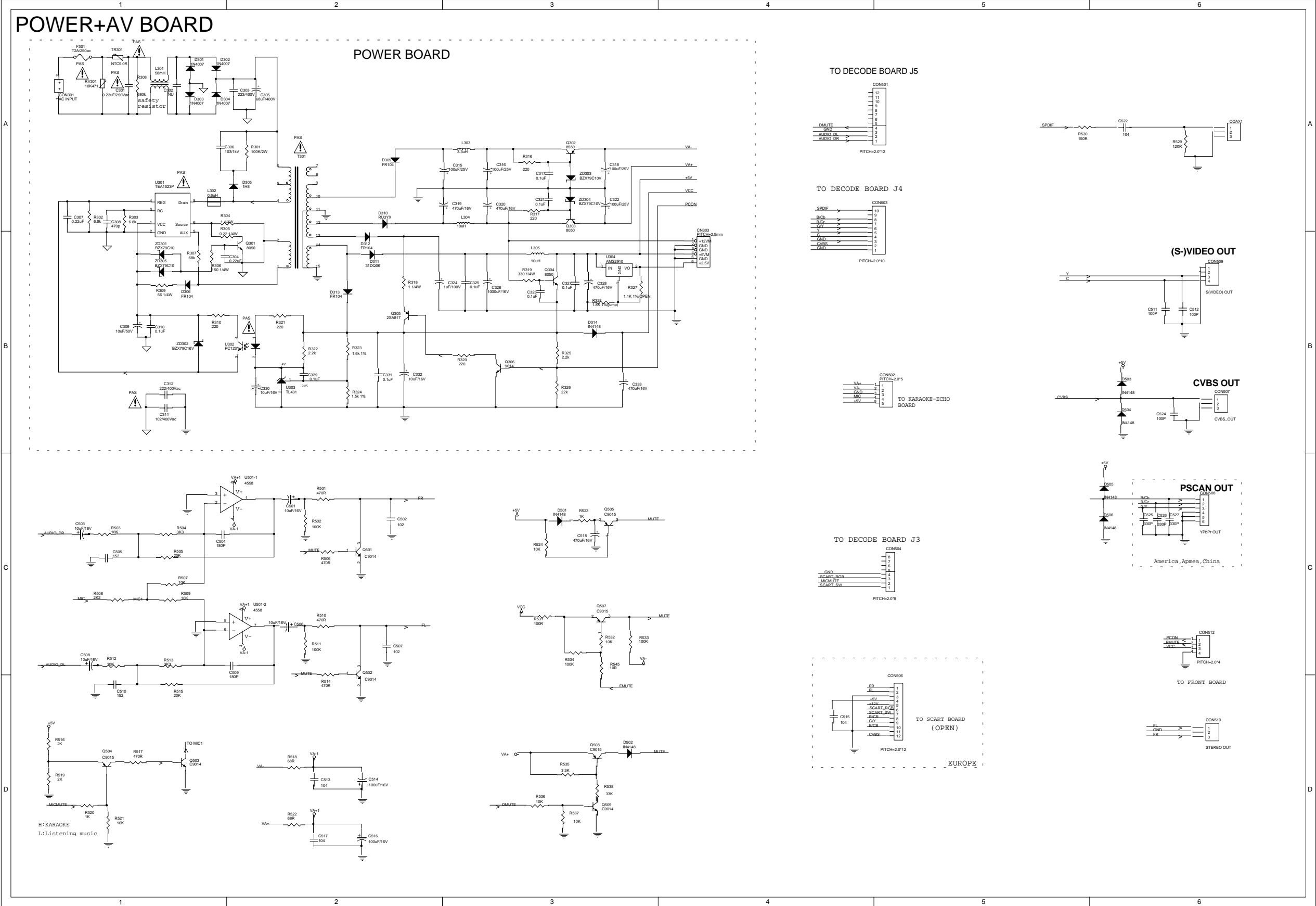
U401	9965 000 14591	IC RC4558DR
U601	4822 209 17186	PT2399

Note: Only the parts mentioned in this list are normal service spare parts.

POWER + AV BOARD

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. Power + AV Board-Circuit Diagram.....	9-2
. Power + AV Board-Component Layout.....	9-3
. Electrical Parts List.....	9-4



C301	A1	L305	B3
C302	A1	Q301	B2
C303	A2	Q302	A3
C304	B2	Q303	A3
C305	A2	Q304	B3
C306	A2	Q305	B2
C307	A1	Q306	B3
C308	A1	Q501	C2
C309	B1	Q502	C2
C310	B1	Q503	D1
C311	B1	Q504	D1
C312	B1	Q505	C3
C315	A3	Q507	C3
C316	A3	Q508	D3
C317	A3	Q509	D3
C318	A3	R301	A2
C319	A3	R302	A1
C321	A3	R303	A1
C322	A3	R304	A1
C323	B3	R305	A1
C324	B3	R306	B1
C325	B3	R307	B1
C326	B3	R308	A1
C327	B3	R309	B1
C328	B3	R310	B1
C329	B2	R316	A3
C330	B2	R317	A3
C331	B2	R318	B2
C332	B2	R319	B3
C333	B3	R320	B3
C501	C2	R321	B2
C502	C2	R322	B2
C503	C1	R323	B2
C504	C1	R324	B2
C505	C1	R325	B3
C506	C2	R326	B3
C507	C2	R327	B3
C508	C1	R328	B3
C509	C2	R501	C1
C510	D1	R501	C2
C511	B6	R502	C2
C512	B6	R503	C1
C513	D2	R504	C1
C514	D2	R505	C1
C516	D2	R506	C2
C517	D2	R508	C1
C518	C3	R509	C1
C522	A6	R510	C2
C524	B6	R511	C2
C525	C6	R512	C1
C526	C6	R513	C1
C527	C6	R515	D1
CN303	B4	R516	D1
COAX1	A6	R517	D1
CON301	A1	R518	D2
CON501	A5	R519	D1
CON502	B5	R520	D1
CON503	A5	R521	D1
CON504	C5	R522	D2
CON506	D5	R523	C3
CON507	B6	R524	C3
CON508	C6	R529	A6
CON509	B6	R530	A5
CON510	D6	R531	C3
CON512	C6	R532	C3
D301	A1	R533	C3
D302	A1	R534	C3
D303	A1	R535	D3
D304	A1	R536	D3
D305	A2	R537	D3
D306	B1	R538	D3
D309	A2	R545	C3
D310	A2	RV301	A1
D311	B2	T301	A2
D312	B2	TR301	A1
D313	B2	U301	A1
D314	B3	U303	B2
D501	C3	U304	B3
D502	D3	U304	B3
D503	B6	U501-1	C2
D504	B6	U501-2	C2
D505	C6	ZD301	B1
D506	C6	ZD302	B1
F301	A1	ZD303	A3
L301	A1	ZD304	A3
L302	A1	ZD305	B1
L303	A3		

CAUTION

RISK OF FIRE—REPLACE FUSE AS MARKED

2A 250V

1_PCON
2_FMUTE
3_VCC
4_GND

1_+5V
2_GND
3_GND
4_+12V
5_GND
6_+2.5V

CON508
CON509
CON510
CON507
CON506
CON505
CON504
CON503
CON502
CON501
CON512

J504
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ELECTRICAL PARTS LIST - POWER + AV BOARD**MISCELLANEOUS**

COAX1	9965 000 22507	RCA JACK AV8.4-108WT-3 BLK
CON301	9965 000 22512	△ MAINS SOCKET SC-13-12
CON507	9965 000 22514	RCA JACK AV8.4-108WT-2 YEL
CON508	9965 000 13971	RCA SOCKET 3P AV-3.2-3W-H
CON509	9965 000 13973	S-TERMINAL SOCKET
CON510	9965 000 20408	RCA SOCKET L/R RCA-213D4-020
F301	9965 000 20422	△ FUSE 2.0AT 250VAC
T301	9965 000 22516	△ MAINS TRANSFO. SRW28EC-X16H117
TR301	9965 000 20430	NTC DTC5D2-11

CAPACITORS

C301	9965 000 15790	△ CAP. M.PP 0.22UF 250VAC 20%
C303	9965 000 15699	△ CAP. PP 0.022 UF 400V 5%
C304	9965 000 15113	CAP. M.P.E. 0.22 UF 50V 5%
C305	9965 000 22513	△ CAP.ELEC 400V 68UF 20%
C306	9965 000 20418	△ CAP. CER 10 NF 1KVDC 20%
C307	9965 000 15113	CAP. M.P.E. 0.22 UF 50V 5%
C308	9965 000 20419	CAP. P.E. 470 PF 63V 5%
C311	9965 000 17574	△ CAP. CER 1000PF 400VAC 20%
C312	9965 000 15160	△
C319	9965 000 14599	CAP. ELEC 470 UF 16V 20%
C320	9965 000 14599	CAP. ELEC 470 UF 16V 20%
C324	9965 000 22508	ELCAP 1UF 100V 20%
C326	9965 000 22509	ELCAP 2200UF 16V 20%
C328	9965 000 14599	CAP. ELEC 470 UF 16V 20%
C333	9965 000 14599	CAP. ELEC 470 UF 16V 20%
C518	9965 000 14599	CAP. ELEC 470 UF 16V 20%

RESISTORS

R301	4822 053 11104	△ 100K 5% 2W
R305	9965 000 22515	RES.C.C. 1/2W 0.22 OHM 5%
RV301	9965 000 20428	VARISTOR RESISTANCE FNR-10K471

COILS & FILTERS

L301	9965 000 20423	LINE FILTER 2*38MH
L302	9965 000 13966	FERR. BEAD LB3.5X6
L303	9965 000 20424	COIL CHOKE 3.3 UH 10%
L304	9965 000 20425	COIL CHOKE SG9006 10UH 20%
L305	9965 000 20425	COIL CHOKE SG9006 10UH 20%

DIODES

D301	4822 130 30799	1N4007G
D302	4822 130 30799	1N4007G
D303	4822 130 30799	1N4007G
D304	4822 130 30799	1N4007G
D305	9965 000 20421	DIODE 1H8
D306	3141 018 51230	DIO REC FR104
D309	3141 018 51230	DIO REC FR104
D310	4822 130 82936	RU3YX
D311	9965 000 14601	DIODE 31DQ06
D312	3141 018 51230	DIO REC FR104
D313	3141 018 51230	DIO REC FR104

D314	4822 130 30621	1N4148
D501	4822 130 30621	1N4148
D502	4822 130 30621	1N4148
ZD301	4822 130 30862	BZX79-B9V1
ZD302	4822 130 31024	BZX79-B18
ZD303	4822 130 61219	BZX79-B10
ZD304	4822 130 61219	BZX79-B10
ZD305	4822 130 30862	BZX79-B9V1

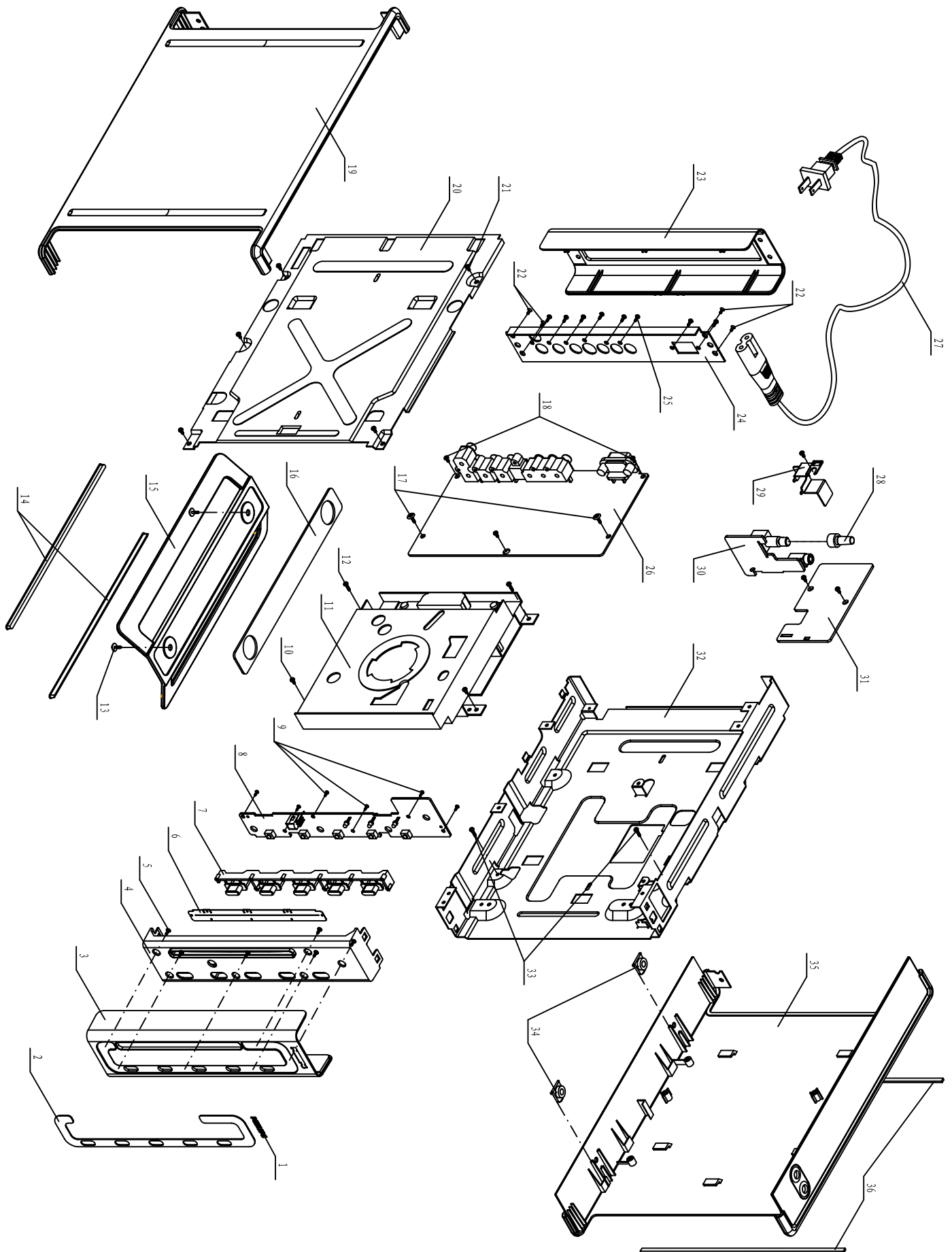
TRANSISTORS

Q301	4822 130 62718	JE8050C
Q302	9965 000 14603	TRANSISTOR KTC8550C
Q303	4822 130 62718	JE8050C
Q304	4822 130 62718	JE8050C
Q305	9965 000 20427	TRANSISTOR 2SA817AY
Q306	9965 000 14581	TRANSISTOR 3DG9014-C NPN
Q501	9965 000 14581	TRANSISTOR 3DG9014-C NPN
Q502	9965 000 14581	TRANSISTOR 3DG9014-C NPN
Q503	9965 000 14581	TRANSISTOR 3DG9014-C NPN
Q504	9965 000 14582	TRANSISTOR 3CG9015C PNP
Q505	9965 000 14582	TRANSISTOR 3CG9015C PNP
Q507	9965 000 14582	TRANSISTOR 3CG9015C PNP
Q508	9965 000 14582	TRANSISTOR 3CG9015C PNP
Q509	9965 000 14581	TRANSISTOR 3DG9014-C NPN

INTEGRATED CIRCUITS

U301	9352 639 17112	IC TEA1523P/N1 (PHSE) L
U302	9965 000 20431	PHOTOCOUPLER PC123Y92
U303	4822 209 81397	TL431CLPST
U304	9965 000 22517	IC AZ1117T-2.5 TO-220
U501	4822 209 83631	NJM4558DD

Note: Only the parts mentioned in this list are normal service spare parts.

MAIN ENCASING EXPLODED VIEW

MECHANICAL & ACCESSORIES PART LIST**SCREW LIST**

1	9965 000 22496	PHILIPS LOGO	5	D2.5 x 8
2	9965 000 22485	FRONT LABEL	9	D2.6 x 8
3	9965 000 22481	OUTSIDE FRONT CABINET	10	M3 x 6
4	9965 000 22482	INNER FRONT CABINET	12	D3 x 8
6	9965 000 13942	DISK BRUSH	13	refer to parts list
7	9965 000 22483	FRONT KEY BUTTONS	17	D3 x 8
11	9965 000 22493	DVD LOADER MODULE DVD590M	18	M3 x 6
13	9965 000 22494	WASHER HEAD M4 X 14 FOR STAND	21	M3 x 6
14	9965 000 22490	RUBBER PAD 1	22	M3 x 7
15	9965 000 22484	BASE	25	D3 x 8
16	9965 000 22491	RUBBER PAD 2	33	D3 x 8
19	9965 000 22486	TOP COVER(PALSTIC)		
23	9965 000 22488	BACK PLATE		
27	9965 000 13933	△ POWER CORD 1880 20MM		
28	9965 000 13941	MIC KNOB		
34	9965 000 22489	BRACKET		
35	9965 000 22487	LOWER COVER		
36	9965 000 22492	RUBBER PAD 3		
A_CBL	9965 000 22497	AUDIO CABLE 1,5M WHITE/RED		
IFU	9965 000 22498	OPERATION MANUAL(IFU)		
RC	9965 000 21425	REMOTE CONTROLLER		
V_CBL	9965 000 22495	VIDEO CABLE 1,5M YEL		

Note: Only the parts mentioned in this list are normal service spare parts.

REVISION LIST

Version 1.0

* Initial release